

Access DB# 63286

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: S. Reddy Pannala Examiner #: _____ Date: 3/27/02
Art Unit: 2177 Phone Number: 305-3390 Serial Number: 09/512949
Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Indexing system and Method for nearest neighbors
Inventors (please provide full names): Searches in high dimensional data spaces
Guang-Ho Cha, Chin-Wan Chung, Xiaoming Zhu
Earliest Priority Filing Date: N/A

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Local polar coordinates
Vector representation
partitioned cells of the data space
Near Neighbors
Approximations
Independent of dimensionality
Response to query
Actual data vectors in the data set
data vectors.

03-27-02 A11:30 IN

(Abstract attached)

STAFF USE ONLY

| | Type of Search | Vendors and cost where applicable |
|---|-------------------------|--|
| Searcher: <u>Geoffrey St. Legri</u> | NA Sequence (#) _____ | _____ |
| Searcher Phone #: <u>308-7800</u> | AA Sequence (#) _____ | Dialog <u>✓</u> |
| Searcher Location: <u>4880</u> | Structure (#) _____ | Questel/Orbit _____ |
| Date Searcher Picked Up: <u>3/29/02</u> | Bibliographic: <u>✓</u> | Dr. Link _____ |
| Date Completed: <u>4/1/02</u> | Litigation _____ | Lexis/Nexis _____ |
| Searcher Prep & Review Time: <u>1.5 hours</u> | Fulltext: <u>✓</u> | Sequence Systems _____ |
| Clerical Prep Time: _____ | Patent Family _____ | WWW/Internet _____ |
| Online Time: <u>2.5 hours</u> | Other _____ | Other (specify) <u>TBS Personal status</u> |

File 347:JAPIO Oct/1976-2001/Nov(Updated 020305)

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File 350:Derwent WPIX 1963-2001/UD,UM &UP=200220

(c) 2002 Derwent Info Ltd

| Set | Items | Description |
|-----|-------|--|
| S1 | 398 | (NEAR OR NEAREST)()NEIGHBOR? OR KNN OR (BILINEAR OR BI()LI- NEAR)()INTERPOLATION OR SINGLE()LINKAGE? ? OR (BEST()MATCH???-) (3N) (SEARCH??? OR QUER????) OR SIMILARITY()JOIN OR POST()OFF- ICE()PROBLEM OR CLOSEST()POINT |
| S2 | 1833 | (LOCAL?? OR POLAR) (3N)COORDINATE? ? |
| S3 | 6325 | (MULTIDIMENSIONAL OR N OR DIMENSIONAL OR DATA OR VECTOR) (2- W)SPACE? ? OR DATASPACE? ? |
| S4 | 12034 | (PARTITION??? OR DIVID??? OR SEGMENT? OR BREAK??? OR SEPAR- AT? OR SPLIT????) (5N) (SPACE? ? OR DATASPACE? ?) (5N) (CELL? ? OR FIELD? ? OR COMPARTMENT? ? OR BLOCK? ? OR SEGMENT? ? OR SECT- ION? ? OR PIECE? ? OR COLUMN? ? OR ROW? ?) |
| S5 | 70843 | QUERY??? OR QUERIES OR SEARCH??? |
| S6 | 76866 | VECTOR? ? |
| S7 | 0 | S1 AND S2 |
| S8 | 1 | S1 AND S4 |
| S9 | 1 | S8 OR (S8 AND (S3 OR S5:S6)) |
| S10 | 34 | S1(5N)S5 |
| S11 | 16 | S10 AND (S3 OR S6) |
| S12 | 1922 | S2 OR AU="CHA G H" |
| S13 | 348 | AU="CHUNG C" OR AU="CHUNG C W":AU="CHUNG C W T" |
| S14 | 1 | AU="CHUNG CHIANG W Y" |
| S15 | 10 | AU="PETKOVIC D" |
| S16 | 414 | AU="ZHU X":AU="ZHU X Z" |
| S17 | 0 | S1 AND S13:S16 |

9/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013992876 **Image available**
WPI Acc No: 2001-477091/200152
XRAM Acc No: C01-143132

Capillary pathway for small volumes of liquid, e.g. blood, includes microstructures spaced at specified distances from each other, in discrete arcuate segment of the curved portion of the pathway
Patent Assignee: ROCHE DIAGNOSTICS CORP (HOFF); ROCHE DIAGNOSTICS GMBH (HOFF)

Inventor: BHULLAR R S; REISER W O L; SHELTON J N
Number of Countries: 027 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|---------------|------|----------|----------|
| EP 1120164 | A2 | 20010801 | EP 2001101403 | A | 20010123 | 200152 B |
| CA 2331588 | A1 | 20010728 | CA 2331588 | A | 20010122 | 200154 |

Priority Applications (No Type Date): US 2000493883 A 20000128
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|--|------|-----|----|-------------|--------------|
| EP 1120164 | A2 | E | 11 | B01L-003/00 | |
| Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR | | | | | |
| CA 2331588 | A1 | E | | G01N-033/48 | |

Abstract (Basic): EP 1120164 A2

NOVELTY - A capillary pathway has group(s) of microstructures for transporting liquid longitudinally through the pathway. The microstructures are spaced by a distance that is less than that necessary to achieve capillary flow of liquid. Each group is confined to a discrete arcuate **segment** of the curved portion(s) of the pathway. The group is **spaced** from any adjacent group by a second distance.

DETAILED DESCRIPTION - A capillary pathway includes curved portion(s). The curved portion has base, inner defined by a first radius from a center point and outer wall concentric about the center point. The outer wall is defined by a second radius greater than the first. The walls are fixed to the base and defines lateral boundaries of the capillary pathway. A lid extends at least from the inner wall to the outer wall covering the capillary pathway. The capillary pathway has microstructures (40) for facilitating the transport of liquid longitudinally through the pathway. A group(s) of microstructures (38a-38 g) is fixed to the base in the capillary pathway between the inner and outer walls. The microstructures of each group is spaced from each other on a **nearest neighbor** basis by less than a first distance that is less than that necessary to achieve capillary flow of liquid. Each group is confined to a discrete arcuate segment of the curved portion(s) of the capillary pathway. Each group is spaced from any adjacent group by a second distance greater than the first distance defining a longitudinal segment of the capillary pathway.

USE - The device is for controlling the flow of small volumes of liquids, such as whole blood, blood serum, urine, and cerebrospinal fluid through capillary devices. It may also be for food products, fermentation products and environmental substances, which potentially contain environmental contaminants.

ADVANTAGE - The invention permits sequential testing of a given biological fluid sample for multiple analytes, or the repeated testing of given portions of a sample for the same analyte for reliability, or to develop time variant functions of a given analyte interaction.

DESCRIPTION OF DRAWING(S) - The figure shows an enlarged perspective view of a small portion of a capillary structure.

Groups of microstructures (38a-38 g)
Microstructures (40)
pp; 11 DwgNo 3/5

Title Terms: CAPILLARY; PATH; VOLUME; LIQUID; BLOOD; MICROSTRUCTURE; SPACE; SPECIFIED; DISTANCE; DISCRETE; ARCUATE; SEGMENT; CURVE; PORTION; PATH

11/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.

013930261 **Image available**
WPI Acc No: 2001-414475/200144
XRPX Acc No: N01-306917

Similar featured-variable search for internet, involves assigning link which is followed so that lower order node approached from main directory, with minimum distance is referred, on tree structure index searching

Patent Assignee: NIPPON TELEGRAPH & TELEPHONE CORP (NITE)
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---------------|------|----------|-------------|------|----------|----------|
| JP 2001134594 | A | 20010518 | JP 99316327 | A | 19991108 | 200144 B |

Priority Applications (No Type Date): JP 99316327 A 19991108

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|---------------|------|--------|-------------|--------------|
| JP 2001134594 | A | 14 | G06F-017/30 | |

Abstract (Basic): JP 2001134594 A

NOVELTY - The lower order empty nodes of an hierarchy, are detected at time of construction of tree structure index. A link is assigned and is followed so that the lower order node which can be approached from main directory with minimum distance is referred, during searching tree structure index. Within the leaf node, the **nearest neighbor** point is **searched** based on near featured-variable **vector**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Similar featured-variable search apparatus;
- (b) Recording medium

USE - For searching multimedia data on internet.

ADVANTAGE - Even the intermediate nodes on tree structure can be determined easily by this method and similar featured-variable search efficiency is improved.

DESCRIPTION OF DRAWING(S) - The figure shows the components of similar featured-variable search apparatus. (Drawing includes non-English language text).

pp; 14 DwgNo 1/13

Title Terms: SIMILAR; VARIABLE; SEARCH; ASSIGN; LINK; FOLLOW; SO; LOWER; ORDER; NODE; APPROACH; MAIN; DIRECTORY; MINIMUM; DISTANCE; REFER; TREE; STRUCTURE; INDEX; SEARCH

Derwent Class: T01

International Patent Class (Main): G06F-017/30

International Patent Class (Additional): G06T-007/00

File Segment: EPI

11/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013638391 **Image available**
WPI Acc No: 2001-122599/200113
XRPX Acc No: N01-090044

I picture block locating method in digital video compression, involves comparing pixels with second precision in one block to pixels in all blocks within search area to produce best match candidates

Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG)
Inventor: BAKHMUTSKY M

Number of Countries: 021 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|--------------|------|----------|---------------|------|----------|----------|
| WO 200054510 | A1 | 20000914 | WO 2000EP1590 | A | 20000228 | 200113 B |
| EP 1078528 | A1 | 20010228 | EP 2000909254 | A | 20000228 | 200113 |
| | | | WO 2000EP1590 | A | 20000228 | |

CN 1296702 A 20010523 CN 2000800251 A 20000228 200154
KR 2001043325 A 20010525 KR 2000712294 A 20001104 200168

Priority Applications (No Type Date): US 99263921 A 19990305

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200054510 A1 E 19 H04N-007/26

Designated States (National): CN JP KR

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE

EP 1078528 A1 E H04N-007/26 Based on patent WO 200054510

Designated States (Regional): DE ES FR GB IT

CN 1296702 A H04N-007/26

KR 2001043325 A H04N-007/26

Abstract (Basic): WO 200054510 A1

NOVELTY - The pixels with second precision values in one block are compared to the pixels with second precision values in all blocks within each **search** area to obtain **best match** candidates (66). The average (70) of best match candidates are computed to produce a first block.

DETAILED DESCRIPTION - Two pictures to be processed are divided into pixels having precision values. The precision values are reduced to obtain pixels with second precision value. INDEPENDENT CLAIMS are also included for the following:

(a) a computer readable recording medium;

(b) and a transmitter.

USE - For digital video compression.

ADVANTAGE - Improves precision of operation since the best match candidates outside the range of other best match candidates are optionally removed. Reduces number of hardware for performing motion **vector** computation and shortens required time for finding the motion **vector** , thus enables high speed hardware implementation and operation.

DESCRIPTION OF DRAWING(S) - The figure shows the explanatory diagram showing the best match results for producing a computed best match.

Best match candidates (66)

Average (70)

pp; 19 DwgNo 5/7

Title Terms: PICTURE; BLOCK; LOCATE; METHOD; DIGITAL; VIDEO; COMPRESS;

COMPARE; PIXEL; SECOND; PRECISION; ONE; BLOCK; PIXEL; BLOCK; SEARCH; AREA
; PRODUCE; MATCH; CANDIDATE

Derwent Class: T01; W02; W04

International Patent Class (Main): H04N-007/26

File Segment: EPI

11/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013483159 **Image available**

WPI Acc No: 2000-655102/200063

XRPX Acc No: N00-485519

**Multi-dimensional data set visualization for statistical data analysis,
by selecting target centroids with at least one target centroid differing
from current centroid to generate intermediate 2D cluster projection**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: MARTIN D C; MOHDA D S; SPANGLER W S; VAITHYANATHAN S

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 6100901 | A | 20000808 | US 98102087 | A | 19980622 | 200063 B |

Priority Applications (No Type Date): US 98102087 A 19980622

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

Abstract (Basic): US 6100901 A

NOVELTY - One of two distinct current centroids and three distinct non-collinear current centroids in clusters of multi-dimensional data set are selected, to generate current 2D cluster projection. Two target and three non-collinear target centroids are selected, with one target centroid differing from the current centroids. Based on current and target centroids, intermediate 2D cluster projection is generated.

DETAILED DESCRIPTION - The intermediate 2D cluster projection is generated based on a set of interpolated centroids. Each interpolated centroid corresponds to current centroid and target centroid associated with current centroid. Each interpolated centroid is interpolated between the corresponding current and associated target centroids. An INDEPENDENT CLAIM is also included for program storage device.

USE - For statistically analyzing data, unsupervised classification, taxonomy generation, **nearest neighbor searching**, scientific discovery, **vector** quantization, text analysis and navigation, data reduction and summarization, super market database analysis, customer/market segmentation and time series analysis, for projecting high dimensional data to fewer dimensional for visualization is field of computing.

ADVANTAGE - Provides a way to visually understand the proximity relationship between the cluster centroids of data set, and also to visualize much dimensional data set in relation to cluster that have been produced by K-means algorithm.

DESCRIPTION OF DRAWING(S) - The figure shows the complete 2D example for a general p-dimensional case of non-linear projection.
pp; 26 DwgNo 9/12

Title Terms: MULTI; DIMENSION; DATA; SET; STATISTICAL; DATA; ANALYSE; SELECT; TARGET; ONE; TARGET; CENTROID; DIFFER; CURRENT; CENTROID; GENERATE; INTERMEDIATE; CLUSTER; PROJECT

Derwent Class: T01

International Patent Class (Main): G06T-011/20

File Segment: EPI

11/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012439815 **Image available**

WPI Acc No: 1999-245923/199921

XRPX Acc No: N99-183145

Detecting motion vector for object block in current frame of orthogonally transformed video with respect to one stored past frame

Patent Assignee: MATSUSHITA ELECTRIC IND CO LTD (MATU); MATSUSHITA DENKI SANGYO KK (MATU)

Inventor: KOMIYA D; UENOYAMA T; YAMADA K; YOSHIO H

Number of Countries: 026 Number of Patents: 002

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| EP 907291 | A2 | 19990407 | EP 98118570 | A | 19981001 | 199921 B |
| JP 11168731 | A | 19990622 | JP 98229949 | A | 19980803 | 199935 |

Priority Applications (No Type Date): JP 98229949 A 19980803; JP 97283162 A 19971001

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 907291 A2 E 32 H04N-007/36

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

JP 11168731 A 23 H04N-007/32

Abstract (Basic): EP 907291 A2

NOVELTY - A set pattern of lower frequency components is extracted from the object block. The components are orthogonally inverse transformed to yield the pattern of pixel data. The past frame is

searched for a **best match** with a maximum correlation with the pattern of pixel data. The motion **vector** is calculated from the object block to the best match.

USE - The method is used to compress digital video signals.

ADVANTAGE - The method is suited to software implementation for providing relatively high-precision motion **vectors** at a passable speed.

DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart shoeing an exemplary operation executed by CPU (10) under the control of a motion **vector** detector program.

pp; 32 DwgNo 4/15

Title Terms: DETECT; MOTION; **VECTOR** ; OBJECT; BLOCK; CURRENT; FRAME;

ORTHOGONAL; TRANSFORM; VIDEO; RESPECT; ONE; STORAGE; PASS; FRAME

Derwent Class: W02; W04

International Patent Class (Main): H04N-007/32; H04N-007/36

International Patent Class (Additional): H04N-005/92; H04N-007/30

File Segment: EPI

11/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011915573 **Image available**

WPI Acc No: 1998-332483/199829

XRPX Acc No: N98-259503

Digital video image stream encoding method e.g. for MPEG-2 encoding, HDTV encoding - involves calculating quantization factor from subtraction data stored in external FIFO buffer in order to adjust bitrate from encoder

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: GREENFIELD J D; HALL B A; KACZMARCZYK J M; NGAI A Y

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5760836 | A | 19980602 | US 96701422 | A | 19960822 | 199829 B |

Priority Applications (No Type Date): US 96701422 A 19960822

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| US 5760836 | A | | 12 | H04N-007/36 | |

Abstract (Basic): US 5760836 A

The method involves performing spatial compression of a still image in a digital video image stream by converting time domain image of macroblock to a frequency domain image of macroblock. A discrete cosine transform of the frequency domain image is taken to perform transformation of DCT macroblock image by quantization factor. A temporal compression is performed between still images by reconstructing the run length encoded, quantized, discrete cosine transformed image of the macroblock to **search** for a **best match** macroblock. A motion **vector** is constructed to form a bitstream comprising runlength encoded, quantized, discrete cosine transformed macroblocks and motion **vector**. The bitstream is passed to a transmission medium through a FIFO buffer.

The number of run length encoded bits is feedback to the encoder. An on-chip counter is incremented each time the FIFOs are read to calculate number of bits read by a host (R). The number of run length encoded bits is compared with number of bits read and written into the FIFO buffer to monitor the number of bits encoded (E). The number of bits read by the host is subtracted from the number of bits encoded by the encoder, and the subtraction result is stored in an external FIFO buffer (BF). A quantization factor is calculated from the data stored in external FIFO buffer inorder to adjust bitrate from the encoder.

ADVANTAGE - Prevents loss of data even when FIFOs are full. Avoids overrunning of data buffer. Prevents interruption in transmission.

Dwg.1/5

Title Terms: DIGITAL; VIDEO; IMAGE; STREAM; ENCODE; METHOD; ENCODE; HDTV; ENCODE; CALCULATE; FACTOR; SUBTRACT; DATA; STORAGE; EXTERNAL; FIFO;

BUFFER; ORDER; ADJUST; ENCODE
Derwent Class: W02; W04
International Patent Class (Main): H04N-007/36
File Segment: EPI

11/5/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011456650 **Image available**
WPI Acc No: 1997-434557/199740
XRPX Acc No: N97-361521

Motion compensation method for digital video image - using motion vectors to define differences in displacement between best match reference macroblocks in previous picture and respective macroblocks in current picture

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)
Inventor: MURDOCK J A; NGAI A Y; VAIL E G
Number of Countries: 005 Number of Patents: 006
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| US 5661524 | A | 19970826 | US 96612639 | A | 19960308 | 199740 B |
| DE 19704439 | A1 | 19970911 | DE 1004439 | A | 19970206 | 199742 |
| JP 9261662 | A | 19971003 | JP 9739477 | A | 19970224 | 199750 |
| KR 97068655 | A | 19971013 | KR 9665034 | A | 19961213 | 199843 |
| TW 373388 | A | 19991101 | TW 96107290 | A | 19960617 | 200036 |
| KR 242406 | B1 | 20000201 | KR 9665034 | A | 19961213 | 200118 |

Priority Applications (No Type Date): US 96612639 A 19960308
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-------------|------|-----|----|--------------|--------------|
| US 5661524 | A | | 12 | H04N-007/32 | |
| DE 19704439 | A1 | | 14 | H04N-007/26 | |
| JP 9261662 | A | | 10 | H04N-007/32 | |
| KR 97068655 | A | | | H04N-007/28 | |
| TW 373388 | A | | | H04N-001/417 | |
| KR 242406 | B1 | | | H04N-007/28 | |

Abstract (Basic): US 5661524 A

The method involves defining a motion trajectory value equal to the average of the motion **vectors** for all of the macroblocks in the previous picture. The previous average motion **vector** has orthogonal x and y components.

An absolute pixel difference is defined, and the zero valued or positive valued base weights are defined as a function of the previous average motion **vector**, and the size of the search window. The values of the base weights, at position corresponding to the origin of the previous average motion **vector**, are zero.

USE/ADVANTAGE - Provides method for **searching for best match** macroblock in previous picture, which produces motion **vector** between best match in previous picture and in current picture, such that motion **vector** between macroblocks is close to actual trajectory between two macroblocks.

Dwg. 3/7

Title Terms: MOTION; COMPENSATE; METHOD; DIGITAL; VIDEO; IMAGE; MOTION;
VECTOR; DEFINE; DIFFER; DISPLACEMENT; MATCH; REFERENCE; PICTURE;
RESPECTIVE; CURRENT; PICTURE
Derwent Class: T01; W02; W04
International Patent Class (Main): H04N-001/417; H04N-007/26; H04N-007/28;
H04N-007/32
International Patent Class (Additional): G06T-009/00; H03M-007/36
File Segment: EPI

11/5/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011449729 **Image available**

WPI Acc No: 1997-427636/199740

XRPX Acc No: N97-355942

Generation of motion vectors for calculation field motion estimate for frame pictures - partitioning field data to allow four required searches to be done simultaneously using duplicate circuitry and using reference data stored in separate arrays

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: VAIL E G

Number of Countries: 005 Number of Patents: 005

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|-------------|
| EP 793388 | A2 | 19970903 | EP 97301358 | A | 19970228 | 199740 B |
| JP 9247687 | A | 19970919 | JP 9736765 | A | 19970220 | 199748 |
| KR 97063962 | A | 19970912 | KR 9652780 | A | 19961108 | 199840 |
| KR 189268 | B1 | 19990601 | KR 9652780 | A | 19961108 | 200056 |
| TW 388173 | A | 20000421 | TW 96107289 | A | 19960617 | 200061 |

Priority Applications (No Type Date): US 96608800 A 19960229

Cited Patents: No-SR.Pub

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-------------------------------------|------|-----|----|-------------|--------------|
| EP 793388 | A2 | E | 16 | H04N-007/32 | |
| Designated States (Regional): DE GB | | | | | |
| JP 9247687 | A | | 11 | H04N-007/32 | |
| KR 97063962 | A | | | H03M-013/00 | |
| KR 189268 | B1 | | | H03M-013/00 | |
| TW 388173 | A | | | H04N-003/26 | |

Abstract (Basic): EP 793388 A

The method of generating motion **vectors** from a macro-block in a current picture to a macro-block in a previous picture for inter-picture video compression in a motion picture having images of f1 and f2 parities involves carrying out five **searches** for **best match** macro-blocks. The method involves reading reference field data for the reference f1 and f2 fields and the current f1 field data simultaneously.

The current f1 field data is used to perform searches of the current f1 field to the reference f1 and f2 fields simultaneously. Reference field data is read for the reference f1 and f2 fields and the current f2 field data simultaneously, and the current f2 field data is used to perform searches on the current f2 field to the reference f1 and f2 fields simultaneously.

ADVANTAGE - Provides speedy motion **vector** calculation process for temporal compression, so that reduction of temporal (inter-frame) redundancy from video bit-stream achieves performance requirements of real-time encoding.

Dwg.1/6

Title Terms: GENERATE; MOTION; **VECTOR** ; CALCULATE; FIELD; MOTION; ESTIMATE ; FRAME; PICTURE; PARTITION; FIELD; DATA; ALLOW; FOUR; REQUIRE; SEARCH; SIMULTANEOUS; DUPLICATE; CIRCUIT; REFERENCE; DATA; STORAGE; SEPARATE; ARRAY

Derwent Class: T01; W02; W04

International Patent Class (Main): H03M-013/00; H04N-003/26; H04N-007/32

International Patent Class (Additional): H03M-007/36

File Segment: EPI

11/5/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011427026 **Image available**

WPI Acc No: 1997-404933/199738

XRPX Acc No: N97-336608

Dual prime motion estimation method for image compression - involves finding macroblock matches in same or opposite parity prior fields is

found and scaled to derive motion vectors

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: BUTTER A S; STEIN C J; SVEC R S

Number of Countries: 006 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|-------------|------|----------|-------------|------|----------|--------|---|
| EP 790580 | A2 | 19970820 | EP 97300913 | A | 19970213 | 199738 | B |
| JP 9233477 | A | 19970905 | JP 9727679 | A | 19970212 | 199746 | |
| TW 324878 | A | 19980111 | TW 96107321 | A | 19960618 | 199828 | |
| KR 97064265 | A | 19970912 | KR 9652609 | A | 19961107 | 199840 | |
| US 6049362 | A | 20000411 | US 96601486 | A | 19960214 | 200025 | |
| KR 246167 | B1 | 20000315 | KR 9652609 | A | 19961107 | 200122 | |

Priority Applications (No Type Date): US 96601486 A 19960214

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 790580 A2 E 23 G06T-009/00

Designated States (Regional): DE GB

JP 9233477 A 17 H04N-007/32

TW 324878 A H04N-007/28

KR 97064265 A H04N-007/32

US 6049362 A H04N-007/32

KR 246167 B1 H04N-007/247

Abstract (Basic): EP 790580 A

The image compression system uses a method of dual prime motion estimation best matches. The method involves select a macroblock in a parity field of the current picture. The preceding field of the same or opposite parity is searched to find a first best match macroblock. A **vector** is formed from the current macroblock to the best match macroblock. This **vector** is scaled so that it refers to a second dual prime macroblock in the opposite parity field. This defines a centre of the dual prime search window.

The average of the macroblocks is formed and the **search** window **searched** to find the **best match** dual prime macroblock. The dual prime and differential motion **vectors** are encoded.

ADVANTAGE - Provides a high speed efficient motion estimation that gives efficient reconstruction of the image.

Dwg.1/9

Title Terms: DUAL; PRIME; MOTION; ESTIMATE; METHOD; IMAGE; COMPRESS; FINDER; MATCH; OPPOSED; PARITY; PRIOR; FIELD; FOUND; SCALE; DERIVATIVE; MOTION; **VECTOR**

Derwent Class: T01

International Patent Class (Main): G06T-009/00; H04N-007/247; H04N-007/28; H04N-007/32

File Segment: EPI

11/5/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011074814 **Image available**

WPI Acc No: 1997-052738/199705

XRPX Acc No: N97-043227

Digital video data compression method using hierarchical block matching with full-search block matching - comparing filtered and decimated macro-block with macroblock sized sub-areas in filtered and decimated search area, then comparing original block with augmented block in original search area

Patent Assignee: FUTURETEL INC (FUTU-N); BHARGAVA V (BHAR-I); CHEN S L (CHEN-I); MATURI G V (MATU-I); WANG R (WANG-I)

Inventor: BHARGAVA V; CHEN S L; MATURI G V; WANG R

Number of Countries: 022 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|------------|------|----------|-------------|------|----------|--------|---|
| WO 9641482 | A1 | 19961219 | WO 96US9187 | A | 19960606 | 199705 | B |
| AU 9663790 | A | 19961230 | AU 9663790 | A | 19960606 | 199716 | |

US 5731850 A 19980324 US 95485030 A 19950607 199819

Priority Applications (No Type Date): US 95485030 A 19950607

Cited Patents: US 5448310

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9641482 A1 E 41 H04N-007/36

Designated States (National): AU CA JP KR

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC

NL PT SE

AU 9663790 A H04N-007/36 Based on patent WO 9641482

US 5731850 A 16 H04N-007/36

Abstract (Basic): WO 9641482 A

The method of estimating the frame-to-frame motion of a block of pels in a video frame involves filtering and decimating a block located at a position in a current frame to define a hierarchical search block. A search area is formed in a reference frame and surrounding the position of the block in the current frame.

The search area is filtered and decimated in the reference frame to define a hierarchical search area, with which the hierarchical search block is compared. The process is repeated for a number of blocks at different positions in the hierarchical search area. The region in the search area which best matches the hierarchical search is identified. An augmented block is formed in the search area in the reference frame that surrounds a region in the search area that corresponds to the region previously identified. The pels in the current frame are compared with those in the augmented block in the reference frame. The process is repeated, and a motion vector is determined equal to a difference between a position of that block in the current frame and a position in the augmented block in the reference frame.

USE/ADVANTAGE - Is computationally efficient. Determines inter-frame motion of macroblocks.

Dwg.1/7

Title Terms: DIGITAL; VIDEO; DATA; COMPRESS; METHOD; HIERARCHY; BLOCK; MATCH; FULL; SEARCH; BLOCK; MATCH; COMPARE; FILTER; DECIMATE; MACRO; BLOCK; SIZE; SUB; AREA; FILTER; DECIMATE; SEARCH; AREA; COMPARE; ORIGINAL; BLOCK; AUGMENT; BLOCK; ORIGINAL; SEARCH; AREA

Index Terms/Additional Words: MPEG

Derwent Class: T01; W02; W04

International Patent Class (Main): H04N-007/36

International Patent Class (Additional): H04N-007/50

File Segment: EPI

11/5/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010805849 **Image available**

WPI Acc No: 1996-302802/199631

XRPX Acc No: N96-353422

Target motion vector determination method e.g. for video encoder - summing motion vectors to define target motion vector giving displacement between search point and corresp. best current frame matching point until target vectors set for all points in previous frame are detected

Patent Assignee: DAEWOO ELECTRONICS CO LTD (DAEW-N)

Inventor: JUNG H

Number of Countries: 007 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| EP 720383 | A1 | 19960703 | EP 94120950 | A | 19941230 | 199631 B |
| JP 8205164 | A | 19960809 | JP 9523464 | A | 19950118 | 199642 N |
| US 5619281 | A | 19970408 | US 94367365 | A | 19941230 | 199720 N |
| CN 1127969 | A | 19960731 | CN 95101342 | A | 19950126 | 199750 N |
| EP 720383 | B1 | 20000913 | EP 94120950 | A | 19941230 | 200046 |

DE 69425896 E 20001019 DE 625896 A 19941230 200060
 EP 94120950 A 19941230
 Priority Applications (No Type Date): EP 94120950 A 19941230; JP 9523464 A 19950118; US 94367365 A 19941230; CN 95101342 A 19950126
 Cited Patents: 3.Jnl.Ref; EP 397402; EP 424026; EP 518314; WO 9203799
 Patent Details:
 Patent No Kind Lan Pg Main IPC Filing Notes
 EP 720383 A1 E 11 H04N-007/36
 Designated States (Regional): DE FR GB NL
 JP 8205164 A 9 H04N-007/32
 US 5619281 A 10 H04N-007/46
 CN 1127969 A H04N-007/32
 EP 720383 B1 E H04N-007/36
 Designated States (Regional): DE FR GB NL
 DE 69425896 E H04N-007/36 Based on patent EP 720383

Abstract (Basic): EP 720383 A

The method involves determining a set of target motion **vectors** between a current frame and a previously selected one. N number of frames are skipped between the current frame and the previous, N is a positive integer. The current (F1) and the previously selected frame (F4) are used in the method together with the N number of skipped frames (F2 and F3), to obtain a series of motion **vectors** for one of the search points within the previous selected frame.

The series of motion **vectors** is summed to define a target motion **vector** representing the displacement between the search point and the corresp. best matching point in the current frame. This operation is repeated until the set of target motion **vectors** for all the search points in the previous selected frame have been detected.

USE/ADVANTAGE - E.g. decimating video encoder. Reduces overall computational complexity.

Dwg.2A/5

Title Terms: TARGET; MOTION; **VECTOR** ; DETERMINE; METHOD; VIDEO; ENCODE; SUM; MOTION; **VECTOR** ; DEFINE; TARGET; MOTION; **VECTOR** ; DISPLACEMENT; SEARCH; POINT; CORRESPOND; CURRENT; FRAME; MATCH; POINT; TARGET; **VECTOR** ; SET; POINT; FRAME; DETECT

Derwent Class: W02; W04

International Patent Class (Main): H04N-007/32; H04N-007/36; H04N-007/46

International Patent Class (Additional): H04N-007/26; H04N-007/50

File Segment: EPI

11/5/11 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010144178 **Image available**

WPI Acc No: 1995-045429/199507

XPX Acc No: N95-035806

Determining set of target motion vectors between current and previous frames - obtaining series of vectors for search blocks using both current and previous frames

Patent Assignee: DAEWOO ELECTRONICS CO LTD (DAEW-N); DAE WOO ELECTRONICS CO LTD (DAEW-N)

Inventor: KIM K; KIM K H

Number of Countries: 008 Number of Patents: 008

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| EP 634874 | A2 | 19950118 | EP 94111174 | A | 19940718 | 199507 B |
| JP 7067116 | A | 19950310 | JP 94164371 | A | 19940715 | 199519 |
| EP 634874 | A3 | 19950405 | | | | 199544 |
| US 5453801 | A | 19950926 | US 94276235 | A | 19940718 | 199544 |
| CN 1112767 | A | 19951129 | CN 94115966 | A | 19940715 | 199738 |
| EP 634874 | B1 | 19990331 | EP 94111174 | A | 19940718 | 199917 |
| DE 69417480 | E | 19990506 | DE 617480 | A | 19940718 | 199924 |
| | | | EP 94111174 | A | 19940718 | |
| KR 128860 | B1 | 19980410 | KR 9313514 | A | 19930716 | 200010 |

Priority Applications (No Type Date): KR 9313514 A 19930716
Cited Patents: -SR.Pub; 1.Jnl.Ref; EP 346637; AEP 397206; AEP 518314;
AUS 5191414

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|------|-----|----|-------------|---------------------------|
| EP 634874 | A2 | E | 10 | H04N-007/32 | |
| Designated States (Regional): DE FR GB NL | | | | | |
| JP 7067116 | A | | 8 | H04N-007/32 | |
| US 5453801 | A | | 9 | H04N-007/24 | |
| EP 634874 | B1 | E | | H04N-007/32 | |
| Designated States (Regional): DE FR GB NL | | | | | |
| DE 69417480 | E | | | H04N-007/32 | Based on patent EP 634874 |
| KR 128860 | B1 | | | H04N-007/24 | |
| EP 634874 | A3 | | | H04N-007/32 | |
| CN 1112767 | A | | | H04N-007/24 | |

Abstract (Basic): EP 634874 A

The method for determining a set of target motion **vectors** involves storing N skipped frames and setting one of several search blocks to be a reference search block. A block in a search region in a shaped frame which **best matches** the reference **search** block is determined, and a motion **vector** is generated, then stored. Other matches are found and their motion **vectors** are generated.

A **best matching** block in a **search** region in a previous selected frame is determined and another motion **vector** is generated. The motion **vectors** are summed to provide a target motion **vector**. The process is repeated until target motion **vectors** have been generated for all search blocks.

USE/ADVANTAGE - For communications. Detects motion **vectors** to reduce overall computational complexity.

Dwg.1/3

Title Terms: DETERMINE; SET; TARGET; MOTION; **VECTOR** ; CURRENT; FRAME;
OBTAIN; SERIES; **VECTOR** ; SEARCH; BLOCK; CURRENT; FRAME

Derwent Class: W02; W04

International Patent Class (Main): H04N-007/24; H04N-007/32

International Patent Class (Additional): H04N-007/36; H04N-011/04

File Segment: EPI

11/5/12 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009951829 **Image available**

WPI Acc No: 1994-219542/199427

XRPX Acc No: N94-173528

Motion estimator for use with video pictures in television receiver - involves deriving motion vectors using circular search areas to find matching blocks in pictures divided into blocks

Patent Assignee: NOKIA TECHNOLOGY GMBH (OYNO); SALON TELEVISIOTEHDAS OY (SALO-N)

Inventor: KOIVUNEN T; SALONEN J

Number of Countries: 006 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| EP 605834 | A2 | 19940713 | EP 93120478 | A | 19931218 | 199427 B |
| FI 9205990 | A | 19940701 | FI 925990 | A | 19921231 | 199435 |
| FI 92896 | B | 19940930 | FI 925990 | A | 19921231 | 199439 |
| EP 605834 | A3 | 19940824 | EP 93120478 | A | 19931218 | 199531 |
| EP 605834 | B1 | 19990224 | EP 93120478 | A | 19931218 | 199912 |
| DE 69323613 | E | 19990401 | DE 623613 | A | 19931218 | 199919 |
| | | | EP 93120478 | A | 19931218 | |

Priority Applications (No Type Date): FI 925990 A 19921231

Cited Patents: No-SR.Pub; EP 466981; EP 535746

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|-------------|--------------|
| EP 605834 | A2 | E | 13 | G06F-015/70 | |

Designated States (Regional): DE FR GB IT NL
FI 92896 B H04N-007/137 Previous Publ. patent FI 9205990
EP 605834 B1 E G06T-007/20
Designated States (Regional): DE FR GB IT NL
DE 69323613 E G06T-007/20 Based on patent EP 605834
FI 9205990 A H04N-007/137
EP 605834 A3 G06F-015/70

Abstract (Basic): EP 605834 A

The method involves dividing the picture into blocks and using block matching. A search area consists of several concentric, interlaced, preferably circular areas, in each of which the **best matching** is **searched**. The x and y coordinates are stored in the memory in the form of **vector** components of a motion **vector** candidate.

For the x components and the y components of the search areas of the reference block and of the respective search areas of the adjacent blocks a median operation is accomplished, and thereafter, from the medians of the x components and the y components of the search area, medians are again calculated, whereby the motion **vector** of the reference block is obtained.

ADVANTAGE - Reliably determines direction and magnitude of motion **vector**.

Dwg. 4/8

Title Terms: MOTION; ESTIMATE; VIDEO; PICTURE; TELEVISION; RECEIVE;

DERIVATIVE; MOTION; **VECTOR**; CIRCULAR; SEARCH; AREA; FINDER; MATCH;

BLOCK; PICTURE; DIVIDE; BLOCK

Derwent Class: T01; W03

International Patent Class (Main): G06F-015/70; G06T-007/20; H04N-007/137

File Segment: EPI

11/5/13 (Item 13 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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008447034 **Image available**

WPI Acc No: 1990-334034/199044

XRFX Acc No: N90-255371

Distributed-block vector quantisation coder - exploits strong correlation between distributed input blocks to reduce both rate and computation, with rate adjusting capability

Patent Assignee: CALIFORNIA INST OF TECHN (CALY)

Inventor: MARKUR A

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 4963030 | A | 19901016 | US 89443103 | A | 19891129 | 199044 B |

Priority Applications (No Type Date): US 89443103 A 19891129

Abstract (Basic): US 4963030 A

Blocks of an image or voice input signal are decimated by a selected factor d, (e.g., d=2) and distributed through a number (d squared) of ordered channels for **vector** quantisation coding using a code book in which **vectors** are ordered, such as by their average intensity. The first channel makes a full search of stored **vectors** in the code book for a best match and outputs the index m(1) of the best match. The second channel makes a partial **search** for a **best match** over a localised region of the code book around the index ((1) and outputs the index m(2) of the best match. The subsequent channels make partial searches over a smaller localised region of the code book around an index that is a function of the indices m(1) and m(2).

At the decoder, the indices m(1), m(2), m(3) and m(4) are used to look up **vectors** in a code book identical to the coder code book. These **vectors** are then assembled by a process that is the inverse of the decimation and distribution process at the encoder to output a decoded signal that is high quality replica of the input signal. The

narrow search ranges in the channels following the first reduce the encoding search time and bit rate for each of the input blocks. That range may be readily changed for each channel, and therefore may be made adaptive.

ADVANTAGE - Distribution of quantisation errors thus making less visibility to human eye.

Dwg.2/5

Title Terms: DISTRIBUTE; BLOCK; **VECTOR** ; QUANTUM; CODE; EXPLOIT; STRONG; CORRELATE; DISTRIBUTE; INPUT; BLOCK; REDUCE; RATE; COMPUTATION; RATE; ADJUST; CAPABLE

Derwent Class: W02

International Patent Class (Additional): H04N-007/13

File Segment: EPI

11/5/14 (Item 14 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008236828 **Image available**

WPI Acc No: 1990-123829/199016

XRPX Acc No: N90-096028

Fast search method for communication and pattern recognition - has of line appts. for off-line reorganisation of code-book having set of reference vector patterns and on-line vector encoding

Patent Assignee: DSP GROUP ISRAEL (DSPG-N)

Inventor: ALDERSBERG S

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 4907276 | A | 19900306 | US 88177981 | A | 19880405 | 199016 B |

Priority Applications (No Type Date): US 88177981 A 19880405

Abstract (Basic): US 4907276 A

The apparatus comprises pre-processing apparatus for providing off-line reorganization of a code book having a set of reference **vector** patterns constituting code **vectors** with which the input **vector** is to be compared in a search procedure, and on-line apparatus for encoding the random input **vector** through quantization in accordance with the search procedure in the code book.

The on-line encoding apparatus includes apparatus for providing a transform domain **vector** having a set of eigen **vectors** , apparatus for determining a surface **vector** nearest to the transform domain **vector** ; apparatus for determining a distance value providing the distortion between the transform domain **vector** and the surface **vector** ; apparatus for determining a code book contiguous sub-group range and apparatus for performing a full search over the contiguous sub-group range within the hyper sphere to select the one code **vector** nearest to the transform domain **vector** for encoding it in accordance with the one selected code **vector** .

USE/ADVANTAGE - Communication and pattern recognition systems employing **nearest neighbor search** method for signal and data compression, based on a **vector** encoding quantization technique, optimizes systems performance with reduced computational complexity.

Dwg.2/4

Title Terms: FAST; SEARCH; METHOD; COMMUNICATE; PATTERN; RECOGNISE; LINE; APPARATUS; OFF-LINE; CODE; BOOK; SET; REFERENCE; **VECTOR** ; PATTERN; ON-LINE; **VECTOR** ; ENCODE

Derwent Class: P86; T04; W04

International Patent Class (Additional): G10L-005/00

File Segment: EPI; EngPI

11/5/15 (Item 15 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008083076 **Image available**

WPI Acc No: 1989-348188/198947

Vector **excitation speech or audio coder for transmission or storage -
calculating numerator and denominator by fast inner products for each
code book** vector

Patent Assignee: VOICECRAFT INC (VOIC-N)

Inventor: DAVIDSON G; GERSHO A

Number of Countries: 002 Number of Patents: 002

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|-------------|
| US 4868867 | A | 19890919 | US 8735518 | A | 19870406 | 198947 B |
| CA 1338387 | C | 19960611 | CA 563230 | A | 19880405 | 199635 |

Priority Applications (No Type Date): US 8735518 A 19870406

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|-------------|--------------|
| US 4868867 | A | 19 | | |
| CA 1338387 | C | | G10L-009/18 | |

Abstract (Basic): US 4868867 A

The **vector** excitation coder ocmpresses **vectors** using an optimum codebook designed off line, using an initial arbitrary codebook and a set of speech training **vectors** exploiting codevector sparsity (i.e. by making zero all but a selected number of samples of lowest amplitude in each of N codebook **vectors**). A fast-search method selects a number Nc of good excitation **vectors** from the codebook, where Nc is much smaller than N, and uses only the Nc **vectors** in an exhaustive **search** for the **best match** between a perceptually weighted input vector Zn, and an estimate Zn derived from a codebook **vector** processes through long-term and short-terms filters, and a perceptual weighting filter. The zero input response of these cascaded filters is calculated and subtracted from an input speech **vector** Sn after perceptual weighting to produce a **vector** rn. (19pp Dwg.No.1a/6)

Title Terms: **VECTOR** ; EXCITATION; SPEECH; AUDIO; CODE; TRANSMISSION; STORAGE; CALCULATE; NUMERATOR; DENOMINATOR; FAST; INNER; PRODUCT; CODE; BOOK; **VECTOR**

Derwent Class: P86; W04

International Patent Class (Main): G10L-009/18

International Patent Class (Additional): G10L-003/02

File Segment: EPI; EngPI

11/5/16 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007736112 **Image available**

WPI Acc No: 1989-001224/198901

XRPX Acc No: N89-000984

**Code excited linear predictive vocoding for speech - using virtual
searching technique to improve performance during speech transitions**

Patent Assignee: AMERICAN TELEPHONE & TELEGRAPH CO (AMTT)

Inventor: KETCHUM R H; KLEIJN W B; KRASINSKI D J

Number of Countries: 012 Number of Patents: 007

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|-------------|
| EP 296764 | A | 19881228 | EP 88305526 | A | 19880617 | 198901 B |
| AU 8818378 | A | 19890105 | | | | 198908 |
| US 4910781 | A | 19900320 | US 8767650 | A | 19870626 | 199017 |
| EP 296764 | B1 | 19920909 | EP 88305526 | A | 19880617 | 199237 |
| DE 3874427 | G | 19921015 | DE 3874427 | A | 19880617 | 199243 |
| | | | EP 88305526 | A | 19880617 | |
| CA 1336455 | C | 19950725 | CA 566911 | A | 19880516 | 199537 |
| KR 128066 | B1 | 19980402 | KR 887693 | A | 19880625 | 200009 |

Priority Applications (No Type Date): US 8767650 A 19870626

Cited Patents: Jnl.Ref

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|------|-----|----|-------------|---------------------------|
| EP 296764 | A | E | 17 | | |
| Designated States (Regional): AT BE DE FR GB IT NL SE | | | | | |
| US 4910781 | A | | 14 | | |
| EP 296764 | B1 | E | 20 | G10L-009/14 | |
| Designated States (Regional): AT BE DE FR GB IT NL SE | | | | | |
| DE 3874427 | G | | | G10L-009/14 | Based on patent EP 296764 |
| KR 128066 | B1 | | | G10L-003/00 | |
| CA 1336455 | C | | | G10L-009/14 | |

Abstract (Basic): EP 296764 A

The speech comprises frames each represented by a speech **vector** having a number of samples. A target excitation **vector** is calculated (102) in response to the present speech **vector**. An error value for each of a number of candidate excitation **vectors** stored in an overlapping table with the target excitation **vector** is calculated (106,104) by repeating a first portion of each of a group of the candidate speech **vectors** at a second portion of each of the group so compensating for speech transitions such as between unvoiced and voiced regions.

Information defining the location of the candidate excitation **vector** selected as having the smallest error value in the table and the filter coefficients for reproduction of the speech for the present speech **vector** are communicated (109)

USE/ADVANTAGE - In speech synthesis. Adaptable to speech transitions esp. noticeable for women since fundamental frequencies that can be generated by women are higher than those for men

Title Terms: CODE; EXCITATION; LINEAR; PREDICT; SPEECH; VIRTUAL; SEARCH; TECHNIQUE; IMPROVE; PERFORMANCE; SPEECH; TRANSITION

Derwent Class: P86; W04

International Patent Class (Main): G10L-003/00; G10L-009/14

International Patent Class (Additional): G10L-007/02; H03M-001/04; H03M-007/26

File Segment: EPI; EngPI

?ds

| Set | Items | Description |
|-----|-------|---|
| S1 | 3 | POLAR (3N)CARTESIAN(3N) (CONVERSION? OR CONVERT?) |

?show files

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File 647:CMP Computer Fulltext 1988-2003/Jan W2
(c) 2003 CMP Media, LLC

File 674:Computer News Fulltext 1989-2003/Jan W3
(c) 2003 IDG Communications

?

?t s1/7,k/1-3

1/7,K/1 (Item 1 from file: 647)
DIALOG(R) File 647: CMP Computer Fulltext
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01233501 CMP ACCESSION NUMBER: EET20010319S0067

PLDs critical to flexible wireless

J. David McKinney, George Von Dolteren, CommLink Staff Applications
Engineers, Intersil Corp., Palm Bay, Fla., jmckin08@intersil.com,
gvondolt@intersil.com

ELECTRONIC ENGINEERING TIMES, 2001, n 1158, PG100

PUBLICATION DATE: 010319

JOURNAL CODE: EET LANGUAGE: English

SECTION HEADING: COMMUNICATIONS - FOCUS: UNIVERSAL WIRELESS

TEXT:

Programmable ICs provide the building blocks for making software-defined radio platforms a reality. The programmable flexibility to use a single up- and downconverter chip to support multiple transmission standards-including Advanced Mobile Phone Service (AMPS), Nordic Mobile Telephone, Global System for Mobile Communications (GSM), IS- 136, Enhanced Data Rates for GSM Evolution (Edge), IS95, TD-SCDMA, CDMA2000-1X/3x/3x DS, W-CDMA and UMTS Terrestrial Radio Access-is now possible, whereas previous hardware platforms were limited to specific frequencies and signalprocessing formats.

The result is the design simplification of both the transmit chain and the receive chain, which advances base transceiver station equipment from being hardware-constrained to being capable of supporting software reconfiguration of multiple air interfaces.

Programmable up/downconverter ICs are making the jump from being hardware constrained to software configurable by integrating the baseband-to-intermediate-frequency components into single-chip solutions. New four-channel digital upconverter ICs provide serial or parallel 16-bit interfaces, FM modulators, 48-bit sample numerically controlled oscillators, 32-bit carrier NCOs, 256-tap shaping finite impulse response (FIR) filters, half-band filters, high-order interpolation (HOI) filters, gain profile and gain control, with dynamic channel allocation and 20-bit output buses controlled by a microprocessor interface.

New four-channel digital downconverter ICs provide four 16-bit parallel inputs, 32-bit quadrature carrier NCOs, 1-5 stage cascaded integrator/comb filters with barrel shifter gain, half-band decimation and interpolation filters, 256-tap FIR filters, 192-tap resampling FIR filters with 56-bit timing NCO, automatic gain control (AGC) and output select, format and serialize functions controlled by a microprocessor interface.

New generation

Typical of the new generation of upconverters is Intersil's ISL5217 quad programmable model, a single-chip replacement for the serial-to-parallel converters, low-pass filters and analog quadrature upconverter components of earlier designs. The IC interfaces the host processor to the D/A converter, providing a highly reconfigurable signal-processing block capable of 100 dB of spectral purity and more than 140 dB spurious-free dynamic range (SFDR).

The flexibility of many new software-configurable upconverters begins in the front-end data input path. Data enters the chip at the sample frequency (Fs) in either serial or parallel format. Serial sample data bit lengths of 4, 8, 12 or 16 bits can be selected with adjustable time slot counters controlling the latency in relation to the frame strobe request for data. The integration of microprocessor interfaces allows both real-time device configuration control and 16-bit parallel sample data input directly into individual channel memory space. Data flow rates in excess of 6.5 million samples per second can be supported by the chips and

can be clocked (CLK) as high as 104 MHz.

Multimode operation

The front-end data routing path is configurable for multimode operation to support IS-136, Edge and IS-95, which require vector modulation; AMPS and Nordic Mobile Telephone, which require FM with band limiting filtering; and GSM, which requires FM with pulse shaping. The sample data can be routed between the shaping filter and the FM modulator to support each of these standards. Typical individual I and Q shaping filter implementations are fully programmable for both the interpolation rate and the data span. This is achieved by selecting four-, eight- or 16-times interpolation phases and four to 16 DS settings to produce an $IP \times DS$, or 16- to 256 -tap shaping filter. Advanced features for the shaping filter include a dual memory partition, allowing for the preloading of two 128-tap filters that are selectable by programming a single bit in the device control word, and the selection of either 16-bit 2s complement or 24-bit floating point coefficient formats.

The FM modulator provides frequency modulation of the carrier center frequency by the input data with 18-bit accuracy. The modulation type selection, which controls the FM and shaping filter routing order, is controlled by the setting of two additional bits in the same control word and provides time-division multiple access (TDMA) overlay of GSM with Edge in sequential bursts within a single TDMA frame. Reprogramming within the guard time duration is achieved in support of this multimode operation.

Data exits the shaping filters into the gain profile and gain control stage at the $(Fs) \times IP$ rate. The GSM burst mode time mask requirements are implemented through a user-controlled gain profile 128 x 12-bit RAM memory and a programmed gain profile length. The gain profile coefficients are linearly multiplied with the shaping filter output data to perform the profiling. The transmit enable signal (TXEN) can be input externally or programmed and generated internally, with the gain profile length providing the number of symmetric ramp-up/- down steps in relation to the rising and falling edges of TXEN. The user can load new gain profile coefficients without taking the channel offline, to control gain profile edge latency and to bypass the gain profile. Gain control is implemented through a scaling multiplier followed by a scaling shift. This combination provides -0.0026 to -144 dB full scale of attenuation with 12-bit resolution.

To improve the SFDR by rejecting the images produced within the shaping filter a fixed coefficient half-band filter is implemented following the gain control. This interpolate by 2, 11-tap filter with coefficients of 3, 0, -25, 0, 150, 256, 150, 0, -25, 0, 3 is typically 20-bit throughput with data exiting at the $(Fs) \times (IP) \times (2)$ rate.

The shaped sample data is input into an HOI filter that resamples the data from the input rate to the final clock rate. Both integer and noninteger interpolation rates are supported by integrating a highly precise 48-bit sample NCO into the channel design. The NCO is programmed so that the most significant bit is the sample frequency, F_s , which controls the movement of the sample data from the input to the shaping filter. The coarse phase of the NCO controls the processing of the shaping filter and the fine phase controls the processing of the HOI filter. The output from the HOI filter is always at the final clock rate. Special features of this stage include a programmable leap counter for realizing fixed integer interpolation and preventing symbol slip due to the accumulation of phase error and a synchronization output to provide multiple device operation.

As older radio designs utilized separate I and Q D/A before quadrature mixing, the incorporation of separate and identical processing paths for I and Q have led to the movement of the complex mixer from the analog domain into the digital sphere. Complex mixers are now common after the interpolation stage, with 32-bit carrier NCOs allowing precise digital

control of the channel center frequency. Being able to program the carrier from $-CLK/2$ to $+CLK/2$ provides vector rotation control. New features include the ability to preload the carrier phase offset with 16-bit resolution.

To support smart antenna functionality through sectorization and beam steering, four dynamically switchable 20-bit output buses are provided with eight selectable data output formats. Cascade, real, imaginary, muxed I/Q, muxed I/Q at 2x and three complex I/Q modes are selectable, in addition to the ability to route any of the four-channel inputs to any of the four-output summers. This provides channel format and routing control at up to a $CLK/4$ rate.

As makers of base transceiver stations begin implementing multicarrier power amplifier and predistortion technologies in their equipment, the advantages of these new four-channel devices will be realized as the cost-reduced narrowband multichannel architectures significantly decrease component counts and create transmitter platforms that are truly software configurable. As the implementation of wideband architectures progresses, the use of the new upconverters in combined channel or polyphased modes will demonstrate the overall programmability of these components.

A typical scenario would be a W-CDMA implementation of a UMTS Terrestrial Radio Access channel supporting a chip rate of 3.84 million cycles per second, a channel spacing of 5 MHz, a channel raster of 200 kHz and adding a 61.44-MHz clock constraint to demonstrate the ability to combine channels. To have sufficient clocking, the device requires $CLK > (F_s \times IP \times DS)$, which, at 61.44 MHz and an F_s of 3.84 MHz, would allow only 16 taps-not enough filtering for a single-channel implementation.

Combining channels to reduce the F_s rate to $(F_s/\text{number of channels combined})$ allows designers to obtain $61.44 \text{ MHz} > (3.84 \text{ MHz}/4) \times DS \times IP$, or 64 taps. This is effectively reduced to 48 taps as the data is recombined by the summer before output to provide the effective filtering required.

Intersil's HSP50216 Quad Programmable Downconverter, a single-chip replacement for the oscillators, mixers, bandpass filters and AGC circuitry of earlier radio designs, exemplifies the analog-to-digital evolution of downconverters. This IC interfaces the A/D converter directly to the host processor, providing a fully programmable signal-processing block capable of 110 dB of FIR out-of-band rejection and more than 115 dB of SFDR.

To facilitate the increasing performance of today's A/Ds, data input is accomplished through four independent 16-bit parallel input buses with either fixed- or floating-point formats to support standard and gain-ranging A/Ds. Each input can be routed to any of the four channels, with gated, interpolated and multiplexed data input modes supported. The interpolated mode allows for zero samples to be inserted between A/D outputs to interpolate the input data stream up to the clock rate. Input in fixed-point offset binary or 2s complement format is allowed, with the ability to select one of up to eight multiplexed data streams.

After the input, the data is routed to the NCO-mixer-CIC (cascaded integrator/comb) stage, where a programmable 32-bit quadrature carrier NCO is mixed with the incoming data to perform the down-conversion into I and Q components. To ensure adequate noise floor, overall spurious performance and enough tuning resolution, the phase quantization to the sin-cos generator is 24 bits and the amplitude quantization is 19 bits. Advanced features are provided, such as a built-in pseudo-noise generator that effectively increases the noise figure of the receiver by reducing the input sensitivity and adjusts the receiver range. The CIC is an effective architecture for decimation filtering of the resultant data, with the order being programmable from 0 to 5 and a required minimum decimation of four.

From the CIC, the data flows into the back-end processing stage where a dual multiply-accumulator filter compute engine (FCE) with a microcoded FIR sequencer, a FIFO-timer for evenly spacing samples, a 0 - to 96-dB AGC and a **Cartesian -to- Polar** coordinate **conversion** block are available. The FCE also accepts a data recirculation input for cascading filters and a magnitude and phase feedback path for AM and FM filtering that is based on the implemented air interface. At this point, the flexibility of the digital components becomes evident, since the FCE can be coded to implement different types of filter architectures that consists of decimating half-bands, shaping FIRs, interpolating half-bands, resampling FIRs and other complex filtering schemes that are controllable by the 16-bit microprocessor device configuration bus. The only limitation on configurability is the number of available clock cycles, the RAM and ROM resources and the imagination of the system architect.

Continuing the previous example, the FCEs of all four channels are utilized to provide effective receive filtering of the transmitted signal. The channel 0 front end is used to down-convert the data and its CIC filter decimation by four. The channel 0 FCE performs the initial filtering with a 10-tap imported FIR and decimates by an additional factor of two. At this point, the received data is routed to the remaining three channels and is programmed with differing delays to allow each channel to utilize a 38-tap FCE FIR filter. Data is output from the device at 7.68 million samples/second (2x) by using the output-selection routing to output Channel D, C and then B in a recombined format.

<http://www.eetimes.com/>

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... a FIFO-timer for evenly spacing samples, a 0 - to 96-dB AGC and a **Cartesian -to- Polar** coordinate **conversion** block are available. The FCE also accepts a data recirculation input for cascading filters and...

1/7,K/2 (Item 2 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext

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01131342 CMP ACCESSION NUMBER: EET19970714S0064

Communications ICs - Harris adds demodulator - Chip gives cell radio more comm features

Ashok Bindra

ELECTRONIC ENGINEERING TIMES, 1997, n 962, PG47

PUBLICATION DATE: 970714

JOURNAL CODE: EET LANGUAGE: English

SECTION HEADING: Design

TEXT:

Melbourne, Fla. - Harris Semiconductor has introduced a software-driven programmable digital downconverter/demodulator that allows a cellular radio to handle multiple communications standards, such as AMPS, GSM, PCS-1900, IS-54, IS-136 and IS-95. Eliminating the need for dedicated hardware, the HSP50214 packs multiple demodulation schemes to permit a single digital radio to suport a variety of air-interface standards.

The HSP50214 is aimed at multimode DSP-based software receivers that are used in base-stations and test sets. Based on a 0.5-micron CMOS process, the part is sampling now, with production slated for late in the third quarter.

While the HSP50214 is a single-channel device, a quad version for a multiple-channel receiver is in the works and is expected to be released in the second quarter of 1998, according to Tom Tombler, wireless product marketing manager at Harris.

Sigtek Inc. (Columbia, Md.) has developed the ST-114, a PC plug-in evaluation board for the HSP50214. The board generates and tunes signals anywhere from dc to 20 MHz. It incorporates a Windows 95 interface to access registers, and displays demodulated signals implementing FM, FSK, BPSK and QPSK modulation techniques. The board, which features a 10-bit,

40 Msamples/second A/D converter, a TMS320C50 DSP, dual high-speed D/A converters and a 16-bit audio D/A converter, costs \$1,200.

Satellite effort

Sigtek is using the HSP50214 to develop solutions for satellite and point-to-point digital communications based on a variety of modulation schemes, said Sigtek president Jim Shea.

Tombler said that the HSP50214 solves DSP-processor bandwidth limitations, cuts software and hardware overhead, and eliminates standalone ICs to help lower cost. Shea emphasized the chip's flexibility and programmability, as well as on-chip features, such as the resampler.

Designed to downconvert digitized IF data into filtered baseband data which can then be processed by a standard fixed-point DSP, the HSP50214 chip packs 12 different software-controlled processing functions. These include digital downconversion, tuning, decimation, filtering, digital gain control, resampling, FM discrimination, and a **Cartesian -to- Polar converter**. A microprocessor can configure the HSP50214 for a combination of functions that allow for the recovery of signals transmitted under a selected air-interface standard, the company said.

The multiprocessing functions are made possible by on-chip circuit blocks, such as an input section, an input level detector, carrier mixer/numerically controlled oscillator (NCO) modulator, a cascaded integrator comb (CIC) filter, half-band decimating filter, 255-tap programmable FIR filter, digital AGC, resampler half-band filter, timing NCO, discriminator and output section. In addition, the HSP50214 has three clock inputs-two are required, and one is optional. While the input, input-level detector, carrier NCO and CIC decimating filter sections operate on the rising edge of the input clock, the half-band, digital AGC, resampler/half-band filters, timing NCO, discriminator and output sections operate on the rising edge of the processing clock. The optional clock or the reference clock serves as the input clock for the timing-error detector.

Output formats

After downconverting 14-bit sampled IF input, the chip performs decimation and low-pass filtering, which is followed by digital gain control, resampling and output formatting. Output formats include Cartesian (I,Q), Polar (R,theta), frequency discriminator, filtered frequency, timing error and AGC level in either parallel or serial format. The chip maintains a 14-bit dynamic range, and interfaces with the microprocessor through a bidirectional 8-bit bus.

The 5.0-V HSP50214 consumes 364 mA for operation, and comes in a 120-lead metric quad flat pack. In quantities of 10,000, it costs \$14.95.

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... These include digital downconversion, tuning, decimation, filtering, digital gain control, resampling, FM discrimination, and a **Cartesian -to- Polar converter**. A microprocessor can configure the HSP50214 for a combination of functions that allow for the...

1/7,K/3 (Item 3 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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00560048 CMP ACCESSION NUMBER: EBN19900129S3619

TRW's Transform Chip

Kris Wm. Chvatal

ELECTRONIC BUYERS' NEWS, 1990, n 687, 12

PUBLICATION DATE: 900129

JOURNAL CODE: EBN LANGUAGE: English

SECTION HEADING: NEWS

TEXT:

LA JOLLA, CALIF. - TRW LSI Products Inc. has decided to put its weight into the arena for chips called coordinate transformers in two ways at once. It has announced two products in this area-devices that can

convert position data from polar-coordinate form to rectangular-coordinate (Cartesian) form, or vice versa. The parts are used in radar, medical imaging systems and other applications.

TRW LSI skipped one-directional designs-like parts offered by competitor Plessey Semiconductor Corp.-and chose a conversion algorithm that allowed it to produce a two-way coordinate transformer for less than 5% additional cost, said John Eldon, senior applications engineer.

The 16-bit chip runs a procedure called the CORDIC algorithm at a conversion rate of 25 MHz, the company said. "But the way demand for these things is, if we could make a 100-MHz version, we could sell it tomorrow," Eldon added.

Production of a bidirectional transformer gives the company a significant first step into a market where others have already made their mark. For two years, Plessey has been selling its 20-MHz, 16-bit PDPS-16330 Pythagorean processor, which uses an internally developed algorithm to **convert** one way, from **Cartesian** to **polar** coordinates.

Plessey also plans to unveil next month the 40-MHz, 16-bit PDPS-16340, which will use the CORDIC algorithm for **polar -to- Cartesian conversions**, according to Ranjit Chapaner, the firm's CMOS marketing manager. No plans exist now to move toward a bidirectional part, he added.

TRW's Eldon said that only a small percentage of sales are expected in applications that require both directions. Radar and sonar systems, medical imaging, and special-effects producers are the markets the company expects to pursue. About 50% of sales are expected to be in the military markets, Eldon noted.

Pricing in quantities of 1,000 is \$86 for the 20-MHz version, and \$108 for the 25-MHz unit.

This week, the company is also unveiling a half-band digital filter, dubbed the TMC2242, available in 30-MHz and 40-MHz versions. The low-pass filter can be used to halve or double a digital signal's sample rate.

... 20-MHz, 16-bit PDPS-16330 Pythagorean processor, which uses an internally developed algorithm to **convert** one way, from **Cartesian** to **polar** coordinates.

Plessey also plans to unveil next month the 40-MHz, 16-bit PDPS-16340, which will use the CORDIC algorithm for **polar -to- Cartesian conversions**, according to Ranjit Chapaner, the firm's CMOS marketing manager. No plans exist now to...

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File 348:EUROPEAN PATENTS 1978-2002/MAR W04

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File 349:PCT FULLTEXT 1983-2002/UB=20020328,UT=20020321

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| Set | Items | Description |
|-----|--------|---|
| S1 | 3724 | (NEAR OR NEAREST)()NEIGHBOR? OR KNN OR (BILINEAR OR BI()LI-NEAR)()INTERPOLATION OR SINGLE()LINKAGE? ? OR (BEST()MATCH???) (3N)(SEARCH??? OR QUER???) OR SIMILARITY()JOIN OR POST()OFF-ICE()PROBLEM OR CLOSEST()POINT |
| S2 | 2514 | (LOCAL?? OR POLAR)(3N)COORDINATE? ? |
| S3 | 10244 | (MULTIDIMENSIONAL OR N OR DIMENSIONAL OR DATA OR VECTOR)(2-W)SPACE? ? OR DATASPACE? ? |
| S4 | 13512 | (PARTITION??? OR DIVID??? OR SEGMENT? OR BREAK??? OR SEPAR-AT? OR SPLIT???) (5N)(SPACE? ? OR DATASPACE? ?)(5N)(CELL? ? OR FIELD? ? OR COMPARTMENT? ? OR BLOCK? ? OR SEGMENT? ? OR SECT-ION? ? OR PIECE? ? OR COLUMN? ? OR ROW? ?) |
| S5 | 848667 | QUERY??? OR QUERIES OR SEARCH??? |
| S6 | 82020 | VECTOR? ? |
| S7 | 109 | S1 AND S2 |
| S8 | 8 | S1(S)S2 |
| S9 | 0 | S1/AB AND S2/AB |
| S10 | 8 | S8 OR S8(S)S3:S6 |
| S11 | 165 | S1 AND S4 |
| S12 | 23 | S1(S)S4 |
| S13 | 0 | S1/AB AND S4/AB |
| S14 | 23 | S12 OR S12(S)(S3 OR S5:S6) |
| S15 | 0 | AU="CHA GUANG" |
| S16 | 0 | AU="CHUNG CHIN" |
| S17 | 0 | AU="PETKOVIC DRAG" |
| S18 | 0 | AU="ZHU XIAOMING" |

10/5,K/1 (Item 1 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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01406218

Method and apparatus for locking sample volume onto moving vessel in pulsed doppler ultrasound imaging

Verfahren und Gerat zur Verriegelung des abgetasteten Volumens auf einem beweglichen Blutgefass in Doppler- Impuls- Ultrachallbilderzeugung

Methode et appareil de verrouillage de volume d'echantillonnage sur un vaisseau mobile dans une imagerie ultrasonore Doppler employant des impulsions

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 1189074 A2 020320 (Basic)

APPLICATION (CC, No, Date): EP 2001307839 010914;

PRIORITY (CC, No, Date): US 661749 000914

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G01S-015/89; G01S-007/52

ABSTRACT EP 1189074 A2

A method and an apparatus for automatically maintaining the Doppler sample gate position at a pre-selected vessel position in B-mode or color flow images during tissue or probe motion. The sample gate (34, 36) is locked onto the selected vessel (30) automatically when the vessel position has changed. Optionally, the vessel slope cursor (28) is automatically updated when the vessel position has changed. The method employs pattern matching of images from successive frames to determine how much a vessel in the image frame has been translated and rotated from one frame to the next. Preferably, either a cross-correlation method is applied to the imaging data in the spatial domain to determine the relative object translation and/or rotation between image frames, or a matched filtering method is applied to the imaging data in the frequency (i.e., Fourier) domain to determine the relative object translation and/or rotation between image frames.

ABSTRACT WORD COUNT: 149

NOTE:

Figure number on first page: 2

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020320 A2 Published application without search report

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 200212 | 800 |
| SPEC A | (English) | 200212 | 7069 |
| Total word count - document A | | | 7869 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 7869 |

...SPECIFICATION as gp1))((theta), (lambda)) and fp1))((theta), (lambda)),

where (theta) is the angle of the **polar coordinate** system in the frequency domain and (lambda) = log((rho)), where (rho) is the radial distance of the **polar coordinate** system in the frequency domain. After polar-logarithmic transformation in step 74, a two-dimensional...

...difference between the extracted phases, performs a two-dimensional inverse FFT on that phase difference, **searches** for the maximum of the result of that two-dimensional inverse FFT, and determines the...

...Nx))Nx)) and Ny))Ny)) are the total re-sample numbers along the angular and **polar coordinates** respectively. The test image in the frequency domain, G(u, v), is then rotated by...

...operations, it re-samples the digital image data using some specific interpolation method such as **bilinear interpolation**. The rotation and scaling are then performed according to the following operation matrix: where (sigma...

...difference between those extracted phases, performs a two-dimensional inverse FFT on that phase difference, **searches** for the maximum of the result of that two-dimensional inverse FFT, and then determines...

10/5,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00978462

System and methods for identifying a molded container
System und Verfahren zur Identifikation eines Behalters
Systeme et procedes pour identifier un recipient moule
PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 887120 A1 981230 (Basic)

APPLICATION (CC, No, Date): EP 97304445 970624;

PRIORITY (CC, No, Date): EP 97304445 970624

DESIGNATED STATES: DE; FR; IT

INTERNATIONAL PATENT CLASS: B07C-005/34; G06K-007/10;

ABSTRACT EP 887120 A1

Systems and methods of operation thereof for identifying containers handled by a container handling apparatus. Each container has a portion that includes one of a plurality of identifying patterns. A camera generates an image of at least the portion of the container including the identifying pattern wherein the image includes a pattern image corresponding to the identifying pattern. An image processor detects an optical characteristic of the image within a defined region of the image and detects the pattern image as a function of the detected characteristic. The defined region of the image includes the pattern image corresponding to the identifying pattern. The image processor determines the container's identifying pattern as a function of the pattern image detected by the image processor thereby to identify the container.

ABSTRACT WORD COUNT: 128

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 981230 A1 Published application (A1with Search Report
;A2without Search Report)
Examination: 990707 A1 Date of filing of request for examination:
990507
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 9853 | 1856 |
| SPEC A | (English) | 9853 | 8145 |
| Total word count - document A | | | 10001 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 10001 |

...SPECIFICATION center of bottom portion 36. To facilitate processing of the image, computer 68 transforms the **polar coordinates** of the pixels in defined region 80 to an (x,y) coordinate system. In other...

...The circular/radial scanning technique preferably employs a sine/cosine transform in combination with a "**nearest neighbor**" approximation.

As an example of unwrapping defined window region 80, the generally annular region shown...

10/5,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00960108

A method and apparatus for creating a color blood flow image based upon ultrasonic echo signals received by an intravascular ultrasound imaging probe

Verfahren und Vorrichtung zur Farbbilddarstellung einer Blutströmung über von einer intravaskulären Ultraschall-Bildsonde empfangene Ultraschall-Echosignale

Methode et appareil pour créer une image couleur d'un écoulement sanguin basé sur l'écho d'un signal ultrason reçu par une sonde d'échographie intravasculaire

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 871043 A2 981014 (Basic)
EP 871043 A3 981028

APPLICATION (CC, No, Date): EP 98201041 980402;

PRIORITY (CC, No, Date): US 827724 970408

DESIGNATED STATES: DE; FR; GB; IT; NL; SE

INTERNATIONAL PATENT CLASS: G01S-015/89

ABSTRACT EP 871043 A3

A blood flow detection and imaging method and system is described for displaying images in accordance with signals transmitted from an intravascular ultrasound transducer probe. The image processor includes means for independently designating persistence factors for smoothing calculated speed and power of the dynamic portion of a field of view

within a vasculature. Furthermore, the designation of a particular image point within a field of view as a dynamic image point (such as a blood flow region) as opposed to a static image point (such as a tissue region) is determined by averaging signal values for image points proximate to an image point of interest over both time and space.

ABSTRACT WORD COUNT: 111

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change: 000614 A2 Designated contracting states changed 20000428
Application: 981014 A2 Published application (Alwith Search Report
;A2without Search Report)
Search Report: 981028 A3 Separate publication of the European or
International search report
Change: 981104 A2 Obligatory supplementary classification
(change)
Examination: 990407 A2 Date of filing of request for examination:
990204
Change: 990707 A2 Designated Contracting States (change)

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 9842 | 1961 |
| SPEC A | (English) | 9842 | 8910 |
| Total word count - document A | | | 10871 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 10871 |

...SPECIFICATION Scan image continues during step 120 with the conversion of the composite image points from **polar coordinates** to display pixel coordinates for output upon the display 28. For every output pixel after as **bilinear interpolation**. Instead, for each pixel, the color bits for the **nearest neighbors** on the polar grid are observed to determine whether to designate the output pixel as...

10/5,K/4 (Item 4 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00391836

Method and apparatus to scan convert radar video to television outputs.

Verfahren und Gerat zur Abtastumsetzung von Radarvideosignalen in Fernsehsignale.

Procede et appareil pour convertir le balayage des signaux video radar en signaux de television.

PATENT ASSIGNEE:

HONEYWELL INC., (246051), Honeywell Plaza, Minneapolis MN 55408, (US),
(applicant designated states: DE;FR;GB;IT)

INVENTOR:

Hancock, William R., 1026 East Tierra Buena Lane, Phoenix, Arizona 85022,
(US)

LEGAL REPRESENTATIVE:

Herzbach, Dieter, Dipl.-Ing. et al (5401), Honeywell Holding AG Patent-
und Lizenzabteilung Postfach 10 08 65, D-63008 Offenbach, (DE)

PATENT (CC, No, Kind, Date): EP 394857 A2 901031 (Basic)

EP 394857 A3 911227

EP 394857 B1 941207

APPLICATION (CC, No, Date): EP 90107500 900420;

PRIORITY (CC, No, Date): US 342352 890424

DESIGNATED STATES: DE; FR; GB; IT

INTERNATIONAL PATENT CLASS: G01S-007/298; G06F-001/035;

CITED PATENTS (EP A): US 4220969 A; WO 8202637 A

CITED REFERENCES (EP A):

IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, Vol.
25, No. 2, March 1989, New York, US; NICKERSON et al: "Scan Conversion
of Radar Images"; p. 166-175.;

ABSTRACT EP 394857 A2

A method and apparatus for converting polar format radar video data into a horizontal raster format output for compatibility with a TV monitor. Radar video data comprises radar video pixels each having an associated intensity value and a polar coordinate in a raster display. The TV monitor includes a display screen wherein each pixel has a corresponding X,Y address. The apparatus and method of the invention comprises steps or apparatus for storing (160) the radar video pixels using polar coordinates translating (120) X,Y addresses into corresponding polar coordinates, scanning the storage means using the translated X,Y address and interpolating a radar intensity value for the translated X,Y address. The scanning process includes accessing at least four radar video pixels surrounding the translated X,Y address. In the preferred embodiment of the invention, the scan conversion of the X,Y addresses is accomplished in a seven stage scan converter pipeline.

ABSTRACT WORD COUNT: 151

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 901031 A2 Published application (Alwith Search Report
;A2without Search Report)
Search Report: 911227 A3 Separate publication of the European or
International search report
Examination: 920812 A2 Date of filing of request for examination:
920616
Change: 930428 A2 Representative (change)
Examination: 940105 A2 Date of despatch of first examination report:
931119
Grant: 941207 B1 Granted patent
*Assignee: 950201 B1 Proprietor of the patent (transfer of rights):
HONEYWELL INC. (246050) Honeywell Plaza
Minneapolis Minnesota 55408 (US) (applicant
designated states: DE;FR;GB;IT)
Oppn None: 951129 B1 No opposition filed
Lapse: 960410 B1 Date of lapse of the European patent in a
Contracting State: GB 950420

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | EPBBF1 | 1263 |
| CLAIMS B | (English) | EPBBF1 | 1009 |
| CLAIMS B | (German) | EPBBF1 | 941 |
| CLAIMS B | (French) | EPBBF1 | 1193 |
| SPEC A | (English) | EPBBF1 | 3839 |
| SPEC B | (English) | EPBBF1 | 3733 |
| Total word count - document A | | | 5102 |
| Total word count - document B | | | 6876 |
| Total word count - documents A + B | | | 11978 |

...SPECIFICATION pixel. During the readout phase a high speed hardware pipeline performs the necessary warping from **polar** to cartesian **coordinates** , rotation and scaling. The pipeline utilizes **bi - linear interpolation** to ensure optimum display fidelity. Thus, the invention solves the difficult problems of missing pixels steps including three steps for accessing the data and performing **bi - linear interpolation**

SUMMARY OF THE INVENTION

A method and apparatus for converting polar format radar video data...

...SPECIFICATION pixel. During the readout phase a high speed hardware pipeline performs the necessary warping from **polar** to cartesian **coordinates** , rotation and scaling. The pipeline utilizes **bi - linear interpolation** to ensure optimum display fidelity. Thus, the invention solves the difficult problems of missing pixels...the invention require only seven steps including three steps for accessing the data and performing **bi - linear interpolation** .

SUMMARY OF THE INVENTION

A method and apparatus for converting polar format radar video data...

10/5,K/5 (Item 5 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.

00221488

Processing of oriented patterns.
Verarbeitung von orientierten Mustern.
Traitement de motifs orientes.

PATENT ASSIGNEE:

SCHLUMBERGER TECHNOLOGY CORPORATION, (461146), Schlumberger Laboratory
for Computer Science 8311 North RR 620 P.O. Box 200015, Austin Texas
78720-0015, (US), (applicant designated states: DE;FR;GB;IT)

INVENTOR:

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Boydell, John Christopher (28571), Stevens, Hewlett & Perkins 1
Serjeants' Inn Fleet Street, London EC4Y 1LL, (GB)

PATENT (CC, No, Kind, Date): EP 211683 A2 870225 (Basic)
EP 211683 A3 900425
EP 211683 B1 931006

APPLICATION (CC, No, Date): EP 86306284 860814;

PRIORITY (CC, No, Date): US 766639 850816

DESIGNATED STATES: DE; FR; GB; IT

INTERNATIONAL PATENT CLASS: G06F-015/70;

CITED PATENTS (EP A): US 4180831 A

CITED REFERENCES (EP A):

IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, vol.
PAMI-5, no. 3, May 1983, pages 316-329, IEEE, New York, US; R. MACHUCA
et al.: "Applications of Vector Fields to Image Processing"
PROCEEDINGS OF THE 3rd WORKSHOP ON COMPUTER VISION: REPRESENTATION AND
CONTROL, Bellaire, Michigan, US, 13th-16th October 1985, IEEE;
Muralidhara Subbarao et al.: "On the uniqueness of image flow solutions
for planar surfaces in motion";

ABSTRACT EP 211683 A2

Processing of oriented patterns.

Disclosed are a method and a system for processing patterns such as
oriented patterns, to derive constituents which are more useful than the
original patterns. For example, an oriented pattern such as a seismic
section can be decomposed into a flow field, which is an estimate of a
moving accretion boundary which formed the subsurface layers, and a
residual pattern, which is an estimate of layer properties, such as
acoustic velocity. Similarly, an oriented pattern such as a chart
displaying changes in borehole resistivity with depth along its vertical
direction and changes in resistivity with angle around the borehole along
its horizontal dimension, can be decomposed into a flow field and a
residual pattern, where the flow field is an estimate of a moving
accretion boundary and the residual pattern is an estimate of resistivity
changes with depth and angle independent of the accretion boundary. The
flow field can be mapped onto regular, e.g. orthogonal or polar,
coordinates to thereby straighten the original pattern into a deformed or
residual pattern which is more useful with respect to visualizing or
further processing a parameter of interest than the original pattern.

ABSTRACT WORD COUNT: 195

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 870225 A2 Published application (A1with Search Report
;A2without Search Report)
Search Report: 900425 A3 Separate publication of the European or
International search report
Examination: 901219 A2 Date of filing of request for examination:
901023
Examination: 921007 A2 Date of despatch of first examination report:
920820
*Assignee: 930519 A2 Applicant (transfer of rights) (change):
SCHLUMBERGER TECHNOLOGY CORPORATION (461146)
Schlumberger Laboratory for Computer Science

8311 North RR 620 P.O. Box 20015 Austin Texas
78720-0015 (US) (applicant designated states:
DE;FR;GB;IT)

Grant: 931006 B1 Granted patent
Oppn None: 940928 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS B | (English) | EPBBF1 | 547 |
| CLAIMS B | (German) | EPBBF1 | 534 |
| CLAIMS B | (French) | EPBBF1 | 602 |
| SPEC B | (English) | EPBBF1 | 7845 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 9528 |
| Total word count - documents A + B | | | 9528 |

...SPECIFICATION of spurious stretch or dilation. This can usually be done satisfactorily by constructing a fairly **local coordinate** frame around some point of interest. For this purpose, the point of interest can be... ϕ), $\cos(\phi)$) for lines across and along the direction of flow respectively, and using **bilinear interpolation** on the orientation field. Since the angle (ϕ) is always between 0(degree) and 180...

10/5,K/6 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00870901 **Image available**

METHOD FOR DETERMINING CONFLICTING PATHS BETWEEN MOBILE AIRBORNE VEHICLES AND ASSOCIATED SYSTEM AND COMPUTER SOFTWARE PROGRAM PRODUCT

PROCEDE ET SYSTEME DESTINES A DETERMINER DES TRAJECTOIRES DE VOL INCOMPATIBLES ENTRE DES VEHICULES AERIENS EN MOUVEMENT ET PROGRAMME LOGICIEL INFORMATIQUE ASSOCIE

Patent Applicant/Assignee:

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Inventor(s):

LAI Chih, 7892 Hill Road, Woodbury, MN 55125, US,

Legal Representative:

LYN Kevin R (et al) (agent), Alston & Bird LLP, Bank of America Plaza, 101 South Tryon Street, Suite 4000, Charlotte, NC 28280-4000, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200204973 A2 20020117 (WO 0204973)

Application: WO 2001US21567 20010709 (PCT/WO US0121567)

Priority Application: US 2000217231 20000710

Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G01S

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 10634

English Abstract

A method of determining conflicting flight paths between a first and a second airborne vehicle is provided, wherein each vehicle comprises an aircraft-to-aircraft navigational communication system having a

navigational device. First, a position and a velocity vector are determined for each of the airborne vehicles. A cylindrical volume is then defined about the first airborne vehicle. A separation distance is then determined between the vehicles at a selected time and using a great circle earth model. An accuracy factor is thereafter determined for the position of each vehicle. The separation distance is then modified by the accuracy factor. A determination is then made as to whether the modified separation distance is within the cylindrical volume about the first airborne vehicle during a time range to thereby determine whether conflicting flight paths exist between the vehicles. An associated system and computer software program product are also provided.

French Abstract

L'invention concerne un procede et un systeme destine a determiner des trajectoires de vol incompatibles entre un premier et un second vehicule aerien, chaque vehicule comprenant un systeme de communication de navigation aeronef-aeronef dote d'un dispositif de navigation. Premierement, on determine une position et un vecteur de vitesse pour chacun de ces vehicules aeriens, puis on definit un volume cylindrique autour du premier vehicule aerien. On calcule ensuite une distance de separation entre les vehicules a une heure choisie a l'aide d'un modele de la terre represente par un grand cercle, un facteur de precision etant alors etabli pour la position de chaque vehicule. Par la suite, la distance de separation est modifiee par le facteur de precision. On realise alors un calcul consistant a determiner si la distance de separation modifiee est comprise dans le volume cylindrique entourant le premier vehicule aerien pendant une plage temporelle donnee de maniere a detecter des trajectoires de vol incompatibles entre les vehicules aeriens. L'invention concerne egalement un programme logiciel informatique associe.

Legal Status (Type, Date, Text)

Publication 20020117 A2 Without international search report and to be republished upon receipt of that report.

Fulltext Availability:

Detailed Description

Detailed Description

... may occur under the described reasoning, wherein the situations are illustrated with respect to a **local coordinate** system about the monitoring aircraft 200. More particularly, FIG. 2A illustrates a situation where $B2 - 4AC < 0$ and the **closest point** of approach ("CPA") 275 occurs outside the PAZ 250. In this situation, there is no...
...also illustrates a situation where $B2 - 4AC > 0$. However, in this instance, the velocity **vector** VV of the target aircraft 300 is directed generally away from the monitoring aircraft 200...

10/5,K/7 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.

00747000 **Image available**

METHOD AND APPARATUS FOR INVESTIGATING AN AREA WITH RESPECT TO PRESENCE/ABSENCE OF PREDETERMINED GEOPHYSICAL SUBTERRANEAN PROPERTIES
PROCEDE ET DISPOSITIF DE RECHERCHE DE LA PRESENCE/ABSENCE DE PROPRIETES GEOPHYSIQUES SOUTERRAINES DETERMINEES DANS UNE REGION

Patent Applicant/Assignee:

ADNR TECHNOLOGY SERVICES GMBH, Via San Gottardo, 56, CH-6648 Minusio, CH,
CH (Residence), CH (Nationality), (For all designated states except:
US)

Patent Applicant/Inventor:

DANGEL Stefan, Plattenstrasse 67, CH-8706 Meilen, CH, CH (Residence), CH
(Nationality), (Designated only for: US)
SINGER Johannes, Buchtalweg 19, D-92521 Schwarzenfeld, DE, DE (Residence)
, DE (Nationality), (Designated only for: US)

RODE Ernst Dietrich, Via Brione, 119, CH-6648 Minusio, CH, CH (Residence)
, DE (Nationality), (Designated only for: US)

Legal Representative:

TROESCH SCHEIDEGGER WERNER AG, Siewerdtstrasse 95, Postfach, CH-8050
Zurich, CH

Patent and Priority Information (Country, Number, Date):

Patent: WO 200060377 A1 20001012 (WO 0060377)

Application: WO 2000CH102 20000224 (PCT/WO CH0000102)

Priority Application: DE 19915036 19990401

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ

TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G01V-001/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 25079

English Abstract

For investigating an area with respect to the presence or absence of a predetermined geophysical subterranean property, as especially with respect to the presence/absence of exploitable subterranean hydrocarbon deposits, signals emanating from subterranean underground are monitored without applying an investigation stimulus. Under a further aspect there is proposed, irrespective how signals emanating from subterranean underground and as monitored are generated, to perform on such signals a non-linear time series analysis so as to decide whether said predetermined geophysical subterranean property is present or not.

French Abstract

Ce procede de recherche dans une region de la presence ou de l'absence d'une propriete geophysique souterraine determinee, et particulierement la presence ou l'absence de gisements souterrains exploitables d'hydrocarbures, consiste a surveiller les signaux provenant du sous-sol sans appliquer de stimulus d'inspection. L'invention consiste en outre, independamment de la maniere dont sont generes et surveilles les signaux provenant du sous-sol, a effectuer sur ces signaux une analyse de series temporelles non lineaire, en vue etablir la presence ou l'absence de ladite propriete geophysique souterraine determinee.

Legal Status (Type, Date, Text)

Publication 20001012 A1 With international search report.

Publication 20001012 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Examination 20001109 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:

Claims

Claim

... point 9'i in the time series look for its

S Pij (7) In (4) **nearest neighbor** 9'j in a m- dimensional space .
Calculate

ij pipj the distance 119i - 9'j II. Iterate both points and compute where...

...the i-th interval and the observation time r is marked as having a false **nearest neighbor** (28]. The later falls into the j-th. In theory this expression has criterion that...

function of the neigh...nonlinear noise reduction algorithm we know of replaces the central coordinate of each embedding **vector** by the **local** average of this **coordinate**. This amounts to a locally constant approximation of the dy2700 namics and is based on...

...essential not to replace the 2600 2700 2800 first and last coordinates of the embedding **vectors** by lo Sn-1 cal averages. Due to the instability, initial errors in these coordinates...

...than that required by the embedding V. NONLINEAR NOISE REDUCTION theorems. Then for each embedding **vector** Is,,), a neighborhood UP) is formed in phase space containing all points Is,,,} such...

...measurements is,,) to unity), a corrected middle coordinate @n-,/2 is COMwill cause the delay **vectors** I SO to fill the available m- puted by averaging over the neighborhood Uf(') **dimensional** embedding **space** in an inhomogeneous way. Linearly correlated Gaussian random variables will for @n-m/2 example...

...an anisotropic multi- E Snl-rn/2 - (13) variate Gaussian distribution. Linear geometric filtering EU.(n) in phase **space** seeks to identify the principal directions of this distribution and project onto them, see Sec...

10/5,K/8 (Item 3 from file: 349)
 DIALOG(R)File 349:PCT FULLTEXT
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00401864 **Image available**
APPARATUS AND METHOD FOR GENERATING A SHEET-METAL BEND MODEL
APPAREIL ET PROCEDURE DE PRODUCTION D'UN MODELE DE CINTRAGE DE TOLE
 Patent Applicant/Assignee:
 AMADA METRECS CO LTD,
 AMADASOFT AMERICA INC,
 Inventor(s):
 SAKAI Satoshi,
 Patent and Priority Information (Country, Number, Date):
 Patent: WO 9742608 A1 19971113
 Application: WO 97US7474 19970506 (PCT/WO US9707474)
 Priority Application: US 9616958 19960506; US 96688860 19960731
 Designated States: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
 Main International Patent Class: G06T-017/00
 Publication Language: English
 Fulltext Availability:
 Detailed Description
 Claims
 Fulltext Word Count: 146574.

English Abstract

An apparatus and method is provided for managing and distributing design and manufacturing information throughout a factory in order to facilitate the production of components, such as bent sheet metal components. In accordance with an aspect of the present invention, the management and distribution of critical design and manufacturing information is achieved by storing and distributing the design and manufacturing information associated with each job. By replacing the traditional paper job set-up or work sheet with, for example, an electronically stored job sheet that can be accessed instantaneously from any location in the factory, the present invention improves the overall efficiency of the factory. In addition, through the various aspects and features of the invention, the organization and accessibility of part information and stored expert knowledge is improved.

French Abstract

Appareil et procede permettant de gerer et de diffuser dans l'ensemble d'une usine des informations relatives a la conception et a la fabrication, afin de faciliter la production de composants, tels que des composants en tole cintree. Selon un aspect de l'invention, la gestion et la diffusion d'informations critiques relatives a la conception et a la fabrication s'effectuent par le stockage et la diffusion d'informations relatives a la conception et a la fabrication associees a chaque travail. La productivite globale de l'usine est amelioree par le remplacement du parametrage classique sur papier ou feuille de travail, par exemple par une feuille de travail stockee electroniquement et pouvant etre consultee instantanement depuis n'importe quel poste dans l'usine. Les differents aspects et caracteristiques de cette invention permettent d'ameliorer l'organisation et la disponibilite des informations relatives aux composants et de l'expertise accumulee.

Fulltext Availability:

Detailed Description

Detailed Description

... dynamically recalculated such that the rotation axis passes 3.5 through the coordinate of the **closest point** to the viewpoint (or camera view) at the center of the screen. By dynamically recalculating... the rotation axis should be set so as to pass through the coordinate of the **closest point** to the viewpoint (i.e., camera) at the center of the screen. In such a...bloop4,
NULL)) return 0 ;
distance
plane
to
bloop - count = 0
if (fabs(distanceplane Tto bloopi) >= **local** -tolerance)
distance
plane - toIbloop
count++ ;
if (fabs(distance
plane Tto-bloop2) >= local-tolerance)
distance
plane...

14/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01358057

FPGA with configurable clock lines
FPGA mit konfigurierbaren Taktleitungen
FPGA avec des lignes d'horloge configurables

PATENT ASSIGNEE:

ATMEL CORPORATION, (1138100), 2325 Orchard Parkway, San Jose, California
95131, (US), (Applicant designated States: all)

INVENTOR:

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(US)

Luking, Robert B., 38 Delrey Avenue, Catonsville, Maryland 21228, (US)

LEGAL REPRESENTATIVE:

Kack, Jurgen (93671), Kahler, Kack, Fiener et Col. Vorderer Anger 268,
86899 Landsberg, (DE)

PATENT (CC, No, Kind, Date): EP 1158403 A1 011128 (Basic)

APPLICATION (CC, No, Date): EP 2001107758 970509;

PRIORITY (CC, No, Date): US 650477 960520

DESIGNATED STATES: DE; FR; GB; IT; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 846289 (EP 97926441)

INTERNATIONAL PATENT CLASS: G06F-009/455; H03K-019/177; H03K-019/173

ABSTRACT EP 1158403 A1

A field programmable gate array (FPGA) is disclosed, comprising a matrix of rows and columns of programmable logic cells (11) interconnectable to each other and to input and output terminals of the circuit, each logic cell including at least one synchronous element therein responsive to a clock signal, and a set of clock lines (CK0)) - CK7))) including at least one main clock line receiving a clock signal, a plurality of column clock lines connectable to said at least one main clock line and each associated with a particular column of logic cells (11), and for each column clock line a plurality of sector clock lines (92) connectable to that column clock line, each sector clock line connected to and providing a clock signal to a subset of a column of logic cells (11).

ABSTRACT WORD COUNT: 135

NOTE:

Figure number on first page: 9

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 011128 A1 Published application with search report

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 200148 | 152 |
| SPEC A | (English) | 200148 | 9998 |
| Total word count - document A | | | 10150 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 10150 |

...SPECIFICATION values in the memory. The interconnect structure provides direct connections between each cell and its **nearest neighbors** in the same row or column of the matrix. U.S. Pat. No. 5,296...

...direct cell-to-cell connections, a set of "local" bus lines provide connections between the **cells** and a bussing network. Regularly **spaced** configurable switches, called repeater units, connect the short local bus **segments** to longer express busses. The repeaters are normally aligned in rows and columns, thereby partitioning...

14/5,K/2 (Item 2 from file: 348)

01358056

FPGA with column set/reset lines

FPGA mit Setz-/Rücksetzleitungen

FPGA avec lignes de validation/invalidation

PATENT ASSIGNEE:

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95131, (US), (Applicant designated States: all)

INVENTOR:

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Mason, Martin T., 2249 Cherrystone Drive, San Jose, California 95128,
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LEGAL REPRESENTATIVE:

Kack, Jorgen (93671), Kahler, Kack, Fiener et Col. Vorderer Anger 268,
86899 Landsberg, (DE)

PATENT (CC, No, Kind, Date): EP 1158402 A1 011128 (Basic)

APPLICATION (CC, No, Date): EP 2001107756 970509;

PRIORITY (CC, No, Date): US 650477 960520

DESIGNATED STATES: DE; FR; GB; IT; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 846289 (EP 97926441)

INTERNATIONAL PATENT CLASS: G06F-009/455; H03K-019/177; H03K-019/173

ABSTRACT EP 1158402 A1

A field programmable gate array (FPGA) is disclosed, comprising a matrix of rows and columns of programmable logic cells (11) interconnectable to each other and to input and output terminals of the circuit, each logic cell (11) including at least one register element therein with set/reset capability responsive to a set/reset control signal, and a set of control lines including one global set/reset line (114) receiving said set/reset control signal, a plurality of column set/reset lines (115) connected to said global set/reset line (114) and each associated with a particular column of logic cells (11), and for each column set/reset line (115) a plurality of sector set/reset lines connectable to that column set/reset line (115), each sector set/reset line (115) connected to and providing said set/reset control signal to a subset of the logic cells in the associated column of logic cells (11).

ABSTRACT WORD COUNT: 144

NOTE:

Figure number on first page: 10

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 011128 A1 Published application with search report

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 200148 | 183 |
| SPEC A | (English) | 200148 | 10055 |
| Total word count - document A | | | 10238 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 10238 |

...SPECIFICATION values in the memory. The interconnect structure provides direct connections between each cell and its **nearest neighbors** in the same row or column of the matrix. U.S. Pat. No. 5,296...

...direct cell-to-cell connections, a set of "local" bus lines provide connections between the **cells** and a bussing network. Regularly **spaced** configurable switches, called repeater units, connect the short local bus **segments** to longer express busses. The repeaters are normally aligned in rows and columns, thereby partitioning...

01346416

FPGA with look-up tables

FPGA mit Nachschlagtabellen

FPGA avec tableaux de consultation

PATENT ASSIGNEE:

ATMEL CORPORATION, (1138100), 2325 Orchard Parkway, San Jose, California
95131, (US), (Applicant designated States: all)

INVENTOR:

Furtek, Frederick C., 2470 Sharon Oak Drive, Menlo Park, California 94025
, (US)

Mason, Martin T., 2249 Cherrystone Drive, San Jose, California 95128,
(US)

Luking, Robert B., 38 Delrey Avenue, Catonsville, Maryland 21228, (US)

LEGAL REPRESENTATIVE:

Kack, Jurgen (93671), Kahler, Kack, Fiener et Col. Vorderer Anger 268,
86899 Landsberg, (DE)

PATENT (CC, No, Kind, Date): EP 1150431 A1 011031 (Basic)

APPLICATION (CC, No, Date): EP 2001107759 970509;

PRIORITY (CC, No, Date): US 650477 960520

DESIGNATED STATES: DE; FR; GB; IT; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 846289 (EP 97926441)

INTERNATIONAL PATENT CLASS: H03K-019/177

ABSTRACT EP 1150431 A1

A field programmable gate array (FPGA) is disclosed, comprising a plurality of programmable logic cells (11) interconnectable to each other and to input and output terminals (A, B) of the circuit, each logic cell (11) including first and second look-up tables (45', 47'), each look-up table (45', 47') having a set of address inputs (a0)), a1)), a2))) and an output, the address inputs of both look-up tables (45', 47') receiving signals from a common set of cell inputs, each logic cell (11) also having an AND logic gate (44') provided therein with a pair of gate inputs selectively connected to two cell inputs and with a gate output connected to one address input (a2))) of both look-up tables (45', 47'), the outputs of said first and second look-up tables (45', 47') selectively connected to respective first and second cell outputs (A, B), each logic cell also including an output multiplexer (61) selectively connected to a third cell output (L) and having first and second multiplexer inputs connected to the respective first and second look-up table (45', 47') outputs and further having a control input selectively connected to an additional cell input.

ABSTRACT WORD COUNT: 192

NOTE:

Figure number on first page: 7

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 011031 A1 Published application with search report

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 200144 | 228 |
| SPEC A | (English) | 200144 | 10048 |
| Total word count - document A | | | 10276 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 10276 |

...SPECIFICATION values in the memory. The interconnect structure provides direct connections between each cell and its **nearest neighbors** in the same row or column of the matrix. U.S. Pat. No. 5,296...

...direct cell-to-cell connections, a set of "local" bus lines provide connections between the **cells** and a bussing network. Regularly **spaced** configurable switches, called repeater units, connect the short local bus **segments** to longer express busses. The repeaters are normally aligned

in rows and columns, thereby partitioning...

14/5,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01337929

FPGA with increased cell utilization

FPGA mit erhöhter Zellnutzung

FPGA avec utilisation accrue des cellules

PATENT ASSIGNEE:

ATMEL CORPORATION, (1138100), 2325 Orchard Parkway, San Jose, California
95131, (US), (Applicant designated States: all)

INVENTOR:

Furtek, Frederick C., 2470 Sharon Oak Drive, Menlo Park, California 94025
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Mason, Martin T., 2249 Cherrystone Drive, San Jose, California 95128,
(US)

Luking, Robert B., 38 Delrey Avenue, Catonsville, Maryland 21228, (US)

LEGAL REPRESENTATIVE:

Kack, Jurgén (93671), Kahler, Kack, Fiener et Col. Vorderer Anger 268,
86899 Landsberg, (DE)

PATENT (CC, No, Kind, Date): EP 1143336 A1 011010 (Basic)

APPLICATION (CC, No, Date): EP 2001107760 970509;

PRIORITY (CC, No, Date): US 650477 960520

DESIGNATED STATES: DE; FR; GB; IT; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 846289 (EP 97926441)

INTERNATIONAL PATENT CLASS: G06F-009/455; H03K-019/177; H03K-019/173

ABSTRACT EP 1143336 A1

A field programmable gate array (FPGA) is disclosed, comprising a matrix of rows and columns of programmable logic cells (12) interconnectable to each other and to input and output terminals of the circuit, each logic cell (12) in the matrix having up to four immediately adjacent orthogonal nearest neighbor logic cells (12) in the same row or column as that logic cell and up to four immediately adjacent diagonal nearest neighbor logic cells located along either of two diagonals of logic cells including that logic cell, each logic cell having direct cell-to-cell input connections (17) to at least one of its immediately adjacent orthogonal nearest neighbor logic cells and also having direct cell-to-cell input connections (13) to at least one of its immediately adjacent diagonal nearest neighbor logic cells, each logic cell further having direct cell-to-cell output connections to the same set of nearest neighbor logic cells as its direct cell-to-cell input connections, each logic cell having first means (41, 43) for selecting one of said orthogonal direct cell-to-cell input connections and second means (54, 55) for selecting one of said diagonal direct cell-to-cell input connections.

ABSTRACT WORD COUNT: 187

NOTE:

Figure number on first page: 3

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 011010 A1 Published application with search report

Examination: 020327 A1 Date of request for examination: 20020111

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 200141 | 212 |
| SPEC A | (English) | 200141 | 9983 |
| Total word count - document A | | | 10195 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 10195 |

...SPECIFICATION values in the memory. The interconnect structure provides direct connections between each cell and its **nearest neighbors** in the

same row or column of the matrix. U.S. Pat. No. 5,296...

...direct cell-to-cell connections, a set of "local" bus lines provide connections between the **cells** and a bussing network. Regularly **spaced** configurable switches, called repeater units, connect the short local bus **segments** to longer express busses. The repeaters are normally aligned in rows and columns, thereby partitioning...

14/5,K/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01310365

Fluid flow control in curved capillary channels

Flussigkeitsstromungskontrolle in gebogenen Kapillarkanalen

Contrôle de l'écoulement d'un fluide dans des canaux capillaires courbes

PATENT ASSIGNEE:

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INVENTOR:

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Shelton, Jeffrey N., 11305 Hickory Woods Drive, Fishers, Indiana 46038, (US)

Reiser, Wolfgang Otto Ludwig, H7, 16, 68159 Mannheim, (DE)

LEGAL REPRESENTATIVE:

Jung, Michael, Dr. et al (60494), Roche Diagnostics GmbH Patentabteilung, 68298 Mannheim, (DE)

PATENT (CC, No, Kind, Date): EP 1120164 A2 010801 (Basic)

EP 1120164 A3 020206

APPLICATION (CC, No, Date): EP 2001101403 010123;

PRIORITY (CC, No, Date): US 493883 000128

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: B01L-003/00; B01J-019/00

ABSTRACT EP 1120164 A2

A capillary pathway is dimensioned so that the driving force for the movement of liquid through the capillary pathway arises from capillary pressure. A plurality of groups of microstructures are fixed in the capillary pathway within discrete segments of the pathway for facilitating the transport of a liquid around curved portions of pathway. Capillary channels can be coupled between two adjacent groups of microstructures to either the inner and outer wall of the capillary pathway. The width of each capillary channel is generally smaller than the capillary pathway to which it is connected, and can be varied to achieve differences in fill initiation. The grouped microstructures are spaced from each other within each group on a nearest neighbor basis by less than that necessary to achieve capillary flow of liquid with each group. Each group of microstructures are spaced from any adjacent group by an inter-group space greater than the width of any adjacent capillary channels connected to the capillary pathway. Generally, the microstructures are centered on centers which are equally spaced from each other, and microstructures that are located closer to the inner wall of any curve in the capillary pathway are generally smaller than the microstructures located closer to the outer wall. This combination of structural features causes fluids to flow through the capillary pathway so that the rate of flow is somewhat non-uniform as the fluid travels around curved portions of the capillary pathway, the meniscus appearing to pause momentarily at each inter-group space, the flow being somewhat slower near the inner wall of a curved portion than near the outer wall.

ABSTRACT WORD COUNT: 266

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 010801 A2 Published application without search report
Examination: 010801 A2 Date of request for examination: 20010123
Change: 020206 A2 International Patent Classification changed:
20011214

Search Report: 020206 A3 Separate publication of the search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | 200131 | 1108 |
| SPEC A | (English) | 200131 | 3094 |
| Total word count - document A | | | 4202 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 4202 |

...SPECIFICATION outer walls. The microstructures within each group are generally spaced from each other on a **nearest neighbor** basis by a first distance that is less than the distance necessary to achieve capillary flow of liquid. Each group of microstructures is confined to a discrete arcuate **segment** of the curved portion of the capillary pathway, and is **spaced** from any adjacent group by a distance greater than the first distance.

The microstructures can...42 and fences 44. The microstructures 40 are generally spaced from each other, on a **nearest neighbor** basis, by a first distance that is less than the distance necessary to achieve capillary...

...between the microstructures. Each group 38 of microstructures 40 is confined to a discrete arcuate **segment** (alpha) of the curved portion of the capillary pathway, and is **spaced** from any adjacent group by an inter-group **space** of distance (beta). Typically the arcuate **segment** (alpha) is a minor portion of the arc involved in the curved portion, of about...

14/5,K/6 (Item 6 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01082716

A method for reducing interference and increasing spectral efficiency
Verfahren zur Interferenz Verminderung und zur spektralen Effizienz
Verbesserung
Methode de reduction d'interference et d'augmentation de l'efficacite
spectrale

PATENT ASSIGNEE:

TRW Inc., (376414), One Space Park, Redondo Beach, California 90278, (US)
, (Applicant designated States: all)

INVENTOR:

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Saunders, Oliver W., 3468 Meier Street, Los Angeles, CA 90066, (US)

LEGAL REPRESENTATIVE:

Schmidt, Steffen J., Dipl.-Ing. (70552), Wuesthoff & Wuesthoff, Patent-
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PATENT (CC, No, Kind, Date): EP 952685 A2 991027 (Basic)

APPLICATION (CC, No, Date): EP 99107343 990421;

PRIORITY (CC, No, Date): US 63799 980421

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: H04B-007/204

ABSTRACT EP 952685 A2

A method for reducing interference and increasing spectral efficiency
in a frequency reuse pattern (600) is disclosed. The method includes the

steps of generating n original communications beams (302-308) assigned to substantially non-overlapping frequency bands, with the original communications beams extending over a first set of predetermined bandwidths. The method also generates n shifted communications beams (402-408) shifted by an orthogonal frequency separation from the n original communications beams (302-308), with the n shifted communications beams (402-408) extending over a second set of predetermined bandwidths. The method projects the n original communications beams (302-308) and the n shifted communications beams (402-408) in a frequency reuse pattern (600) over a region of interest by alternating the n original communications beams (302-308) with the n shifted communications beams (402-408).

ABSTRACT WORD COUNT: 128

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 991027 A2 Published application without search report

LANGUAGE (Publication, Procedural, Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|----------------|----------|--------|------------|
|----------------|----------|--------|------------|

| | | | |
|----------|-----------|------|-----|
| CLAIMS A | (English) | 9943 | 424 |
|----------|-----------|------|-----|

| | | | |
|--------|-----------|------|------|
| SPEC A | (English) | 9943 | 3139 |
|--------|-----------|------|------|

| | |
|-------------------------------|------|
| Total word count - document A | 3563 |
|-------------------------------|------|

| | |
|-------------------------------|---|
| Total word count - document B | 0 |
|-------------------------------|---|

| | |
|------------------------------------|------|
| Total word count - documents A + B | 3563 |
|------------------------------------|------|

...SPECIFICATION communications beams 302-308 and 402-408 are assigned to cells such that no two **nearest neighboring** cells are covered by communications beams covering the same bandwidth. In other words, two A ...still orthogonal), all pairs except B* and C are always separated by at least one **cell**. For example, D **cell** 608 and D* **cell** 616 are **separated** by A* **cell** 618. The physical **space** between overlapping pairs of bandwidths insures low adjacent channel interference.

Unlike the frequency reuse pattern...

14/5,K/7 (Item 7 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00909742

FIELD PROGRAMMABLE GATE ARRAY WITH DISTRIBUTED RAM AND INCREASED CELL UTILIZATION

BENUTZERPROGRAMMIERBARES LOGISCHES FELD MIT VERTEILTEM RAM UND ERHOHTER ZELLNUTZUNG

CIRCUITS PREDIFFUSES PROGRAMMABLES PAR L'UTILISATEUR AVEC MEMOIRE RAM REPARTIE ET UTILISATION ACCRUE DES CELLULES

PATENT ASSIGNEE:

ATMEL CORPORATION, (1138100), 2325 Orchard Parkway, San Jose, California 95131, (US), (Proprietor designated states: all)

INVENTOR:

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MASON, Martin, T., 2249 Cherrystone Drive, San Jose, CA 95128, (US)

LUKING, Robert, B., 38 Delrey Avenue, Catonsville, MD 21228, (US)

LEGAL REPRESENTATIVE:

Kahler, Kurt, Dipl.-Ing. (6167), Patentanwalte Kahler, Kack, Fiener et col., Vorderer Anger 268, 86899 Landsberg/Lech, (DE)

PATENT (CC, No, Kind, Date): EP 846289 A1 980610 (Basic)

EP 846289 B1 020320

WO 9744730 971127

APPLICATION (CC, No, Date): EP 97926441 970509; WO 97US7924 970509

PRIORITY (CC, No, Date): US 650477 960520

DESIGNATED STATES: DE; FR; GB; IT; NL

RELATED DIVISIONAL NUMBER(S) - PN (AN):

EP 1158402 (EP 2001107756)

EP 1158403 (EP 2001107758)

EP 1150431 (EP 2001107759)

EP 1143336 (EP 2001107760)
INTERNATIONAL PATENT CLASS: G06F-009/455; H03K-019/177
CITED PATENTS (EP B): EP 461798 A; EP 575050 A; WO 95/25348 A; US 5204556 A
; US 5224056 A; US 5245227 A; US 5254886 A; US 5311080 A; US 5313119 A;
US 5317698 A; US 5386156 A; US 5425036 A; US 5457409 A
CITED PATENTS (WO A): A A A; A A A
NOTE:

No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):
Search Report: 001122 A1 Date of drawing up and dispatch of
supplementary:search report 20001006
Application: 980318 A1 International application (Art. 158(1))
Grant: 020320 B1 Granted patent
Change: 010613 A1 Title of invention (German) changed: 20010425
Change: 001122 A1 International Patent Classification changed:
20000929
Change: 001122 A1 International Patent Classification changed:
20000929
Change: 010523 A1 Application number of divisional application
(Article 76) changed: 20010405
Examination: 010627 A1 Date of dispatch of the first examination
report: 20010511
Application: 980610 A1 Published application (A1with Search Report
;A2without Search Report)
Examination: 980729 A1 Date of filing of request for examination:
980527

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS B | (English) | 200212 | 522 |
| CLAIMS B | (German) | 200212 | 497 |
| CLAIMS B | (French) | 200212 | 617 |
| SPEC B | (English) | 200212 | 10534 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 12170 |
| Total word count - documents A + B | | | 12170 |

...SPECIFICATION values in the memory. The interconnect structure provides
direct connections between each cell and its **nearest neighbors** in the
same row or column of the matrix. U.S. Pat. No. 5,296...

...direct cell-to-cell connections, a set of "local" bus lines provide
connections between the **cells** and a bussing network. Regularly **spaced**
configurable switches, called repeater units, connect the short local bus
segments to longer express busses. The repeaters are normally aligned
in rows and columns, thereby partitioning...

14/5,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00711605

Reconfigurable data processing stage
Rekonfigurierbare Datenverarbeitungsstufe
Etage d'operation de donnees reconfigurable
PATENT ASSIGNEE:

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92714, (US), (Proprietor designated states: all)

INVENTOR:

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Robbins, William Philip, 19 Springhill, Cam, Gloucestershire, GL11 5PE,
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LEGAL REPRESENTATIVE:

Vuillermoz, Bruno et al (72791), Cabinet Laurent & Charras B.P. 32 20,

rue Louis Chirpaz, 69131 Ecully Cedex, (FR)
 PATENT (CC, No, Kind, Date): EP 674446 A2 950927 (Basic)
 EP 674446 A3 960814
 EP 674446 B1 010801
 APPLICATION (CC, No, Date): EP 95301300 950228;
 PRIORITY (CC, No, Date): GB 9405914 940324
 DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL
 INTERNATIONAL PATENT CLASS: H04N-007/24; G06F-013/00; G06F-009/38
 CITED PATENTS (EP B): EP 572766 A; EP 576749 A; WO 94/25935 A
 CITED REFERENCES (EP B):
 ARCHITECTURE, UNIVERSITY PARK, AUG. 15 - 19, 1988, vol. 1, 15 August
 1988, BRIGGS F A, pages 209-216, XP000079309 KAORU UCHIDA ET AL: "A
 PIPELINED DATAFLOW DATAFLOW PROCESSOR ARCHITECTURE BASED ON A VARIABLE
 LENGTH TOKEN CONCEPT"
 IEEE JOURNAL OF SOLID-STATE CIRCUITS, vol. 23, no. 1, pages 111-117,
 XP000051576 KOMORI S ET AL: "AN ELASTIC PIPELINE MECHANISM BY
 SELF-TIMED CIRCUITS"
 IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS, vol. 36, no. 10, 1 October
 1989, pages 1267-1274, XP000085313 TOKUMICHI MURAKAMI ET AL: "A DSP
 ARCHITECTURAL DESIGN FOR LOW BIT-RATE MOTION VIDEO CODEC"
 IEE PROCEEDINGS E. COMPUTERS & DIGITAL TECHNIQUES, vol. 139, no. 3 PART
 E, 1 May 1992, pages 269-279, XP000306411 ELLIOTT J A ET AL: "REAL-TIME
 SIMULATION OF VIDEOPHONE IMAGE CODING ALGORITHMS ON RECONFIGURABLE
 MULTICOMPUTERS"
 PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON CONSUMER ELECTRONICS,
 ROSEMONT, JUNE 8 - 10, 1993, no. CONF. 12, 8 June 1993, INSTITUTE OF
 ELECTRICAL AND ELECTRONICS ENGINEERS, page 294/295 XP000427624 MAYER A
 C: "THE ARCHITECTURE OF A SINGLE-CHIP PROCESSOR ARRAY FOR
 VIDEOCOMPRESSION"
 4TH INTERNATIONAL CONFERENCE ON SIGNAL PROCESSING APPLICATIONS &
 TECHNOLOGY, vol. 2, 28 September 1993 - 1 October 1993, SANTA CLARA,
 CALIFORNIA, US, pages 1031-1038, XP002014370 TOM KOPET: "Programmable
 architectures for real-time video compression"
 WESCON '84 CONFERENCE RECORD, ANAHEIM, CA, USA, 30 October 1984 - 1
 November 1984, pages 4.6.1-4.6.10, XP002014371 Y.M.CHONG: "A Data-Flow
 Architecure for Digital Image Processing";

ABSTRACT EP 674446 A3

A multi-standard video decompression apparatus has a plurality of stages interconnected by a two-wire interface arranged as a pipeline processing machine. Control tokens and DATA Tokens pass over the single two-wire interface for carrying both control and data in token format. A token decode circuit is positioned in certain of the stages for recognizing certain of the tokens as control tokens pertinent to that stage and for passing unrecognized control tokens along the pipeline. Reconfiguration processing circuits are positioned in selected stages and are responsive to a recognized control token for reconfiguring such stage to handle an identified DATA Token. A wide variety of unique supporting subsystem circuitry and processing techniques are disclosed for implementing the system. (see image in original document)

ABSTRACT WORD COUNT: 144

NOTE:

Figure number on first page: 10

LEGAL STATUS (Type, Pub Date, Kind, Text):

| | | |
|----------------|-----------|---|
| Grant: | 010801 B1 | Granted patent |
| Application: | 950927 A2 | Published application (Alwith Search Report ;A2without Search Report) |
| Change: | 960501 A2 | International patent classification (change) |
| Change: | 960501 A2 | Obligatory supplementary classification (change) |
| Search Report: | 960814 A3 | Separate publication of the European or International search report |
| Examination: | 970409 A2 | Date of filing of request for examination: 970212 |
| Change: | 971105 A2 | Representative (change) |
| Examination: | 990901 A2 | Date of dispatch of the first examination report: 19990713 |

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | EPAB95 | 2475 |
| CLAIMS B | (English) | 200131 | 1079 |
| CLAIMS B | (German) | 200131 | 1072 |
| CLAIMS B | (French) | 200131 | 1186 |
| SPEC A | (English) | EPAB95 | 125236 |
| SPEC B | (English) | 200131 | 121335 |
| Total word count - document A | | | 127738 |
| Total word count - document B | | | 124672 |
| Total word count - documents A + B | | | 252410 |

...SPECIFICATION stage that decodes stage activation data words;

Figures. 8a and 8b taken together form a **block** diagram showing the use of the two-wire transfer control in an exemplifying "data duplication ...the art, the usage is clear from the context.

MOTION COMPENSATION: The use of motion **vectors** to improve the efficiency of the prediction of pel values. The prediction uses motion **vectors** to provide offsets into the past and/or future reference pictures containing previously decoded pel values that are used to form the prediction error signal.

MOTION **VECTOR** : A two-dimensional **vector** used for motion compensation that provides an offset from the coordinate position in the current...stages, is passed in a forward or downstream direction from each pipeline stage to the **nearest neighboring** device. This device may be another pipeline stage or some other system. For example, the...

...Control signals that arbitrate the pipeline are organized so that they only propagate to the **nearest neighboring** pipeline stages. In the case of signals flowing in the same direction as the data...

14/5,K/9 (Item 9 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00389666

Fine-grained microstructure processor.

Prozessor mit feinkorniger Mikrostruktur.

Processeur a microstructure graine fine.

PATENT ASSIGNEE:

Hughes Aircraft Company, (214913), 7200 Hughes Terrace P.O. Box 45066,
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DE;FR;GB)

INVENTOR:

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(US)

LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 396878 A2 901114 (Basic)

APPLICATION (CC, No, Date): EP 90104988 900316;

PRIORITY (CC, No, Date): US 325264 890317

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/336; G06F-015/80;

ABSTRACT EP 396878 A2

A fine-grained microstructure processor (FMP) (10) for solving assignment and correlation problems utilizes a pair of arrays (22, 24) of cells (26) to represent the position of two sets of two-dimensional data points. The arrays (22, 24) are divided by a predefined shape (16) having a plurality of regions. The FMP (10) counts the number of data points in each region and then finds the difference between the resulting sums from corresponding regions in the two arrays (22, 24). The differences for each region are added together by an accumulator (34) to determine a correlation factor. The data in the second array (24) is then shifted until a different data point occupies a particular position with respect

to the predefined shape (16) and a new correlation factor is found. The FMP (10) finds a correlation factor for each data point in the second array (24) and the lowest correlation factor represents the best match between a data point in the first array (22) at a particular position with respect to the predefined shape (16), and the point in the second array (24) yielding the best match. The FMP (18) may then shift the data in the first array (22) and repeat the above process to match each data point in the first array (22) with a data point in the second array (24).

ABSTRACT WORD COUNT: 227

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 901114 A2 Published application (Alwith Search Report
;A2without Search Report)
Examination: 901114 A2 Date of filing of request for examination:
900410
Change: 920401 A2 Representative (change)
Withdrawal: 920902 A2 Date on which the European patent application
was withdrawn: 920708
*Withdrawal: 921111 A2 Date on which the European patent application
was withdrawn (change): 920708

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A | (English) | EPABF1 | 522 |
| SPEC A | (English) | EPABF1 | 4978 |
| Total word count - document A | | | 5500 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 5500 |

...SPECIFICATION of neighboring objects will be more apparent in regions closest to the object. That is, **near neighbors** may contribute more to the correlation than more distant objects. Because of this, it has been found that a spiral, or snail, shape is a useful shape for **dividing** up the individual scans for correlating. The snail shape **segments** the **space** into smaller shapes near a given object that is at its center, and gives a...

14/5,K/10 (Item 10 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00306058

Digital data processing system.

Digitales Datenverarbeitungssystem.

Systeme de traitement de donnees numeriques.

PATENT ASSIGNEE:

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, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 290111 A2 881109 (Basic)
EP 290111 A3 890503
EP 290111 B1 931222

APPLICATION (CC, No, Date): EP 88200917 820521;

PRIORITY (CC, No, Date): US 266404 810522

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE

RELATED PARENT NUMBER(S) - PN (AN):

EP 67556 (EP 823025960)

INTERNATIONAL PATENT CLASS: G06F-009/30;

CITED PATENTS (EP A): US 3902163 A

CITED REFERENCES (EP A):

COMPUTER ARCHITECTURE NEWS, October 1980, pages 4-11; J. RATTNER et al.:

"Object-based computer architecture"

DIGEST OF PAPERS, COMPCON SPRING 1980, 20TH IEEE COMPUTER SOCIETY

INTERNATIONAL CONFERENCE, San Francisco, California, 25th-28th February

1980, pages 340-343, IEEE, New York, US; T.D. McCREERY; "The X-tree

operating system: bottom layer"

PROCEEDINGS OF THE SPRING JOINT COMPUTER CONFERENCE, 1972, pags 417-429,

Afips Press, Atlantic City, N.J., US; G. SCOTT GRAHAM et al.:

"Protection - Principles and practice";

ABSTRACT EP 290111 A2

A digital computer system has a memory system organized into objects (10213) for storing items of information and a processor for processing data in response to instructions. An object identifier code is associated with each object. The objects include procedure objects (10312, 10314, 10316) and data objects. The procedure objects contain procedures including the instructions (10344) and name tables (10350) associated with the procedures. The instructions contain operation codes and names representing data. Each name corresponds to a name table entry in the name table (10350) associated with the procedure. The name table for a name contains information from which the processor may determine the location and the format for the data (e.g. an operand) represented by the name.

ABSTRACT WORD COUNT: 123

LEGAL STATUS (Type, Pub Date, Kind, Text):

Lapse: 20000209 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19931222, BE 19931222, FR 19940513, IT
19931222, LU 19940531, NL 19931222, SE
19931222,

Application: 881109 A2 Published application (A1with Search Report
;A2without Search Report)

Search Report: 890503 A3 Separate publication of the European or
International search report

Examination: 891220 A2 Date of filing of request for examination:
891026

Examination: 920115 A2 Date of despatch of first examination report:
911202

Grant: 931222 B1 Granted patent

Change: 940810 B1 Representative (change)

Lapse: 940928 B1 Date of lapse of the European patent in a
Contracting State: NL 931222

Lapse: 941026 B1 Date of lapse of the European patent in a
Contracting State: NL 931222, SE 931222

Lapse: 941117 B1 Date of lapse of the European patent in a
Contracting State: AT 931222, NL 931222, SE
931222

Lapse: 941130 B1 Date of lapse of the European patent in a
Contracting State: AT 931222, BE 931222, NL
931222, SE 931222

Oppn None: 941214 B1 No opposition filed

Lapse: 950118 B1 Date of lapse of the European patent in a
Contracting State: AT 931222, BE 931222, FR
940513, NL 931222, SE 931222

Lapse: 991020 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
19931222, BE 19931222, FR 19940513, IT
19931222, NL 19931222, SE 19931222,

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS B | (English) | EPBBF1 | 1044 |
| CLAIMS B | (German) | EPBBF1 | 890 |
| CLAIMS B | (French) | EPBBF1 | 1185 |
| SPEC B | (English) | EPBBF1 | 154314 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 157433 |
| Total word count - documents A + B | | | 157433 |

...SPECIFICATION a flexible internal system structure capable of performing multiple, concurrent operations, comprising a plurality of **separate**, independent processors, each having a separate microinstruction control and at least one separate and independent...apparently infinitely deep microstack for EU 122. Assuming that the third interrupt is completed, state of second interrupt is transferred from SS 504 to EUS 512 and **execution** of second interrupt resumed. Upon completion of second interrupt, state of first interrupt is transferred...10310 data used in execution of Procedure 11. As previously discussed, CS 10110's addressing **structure** includes certain Architectural Base Pointers (ABP's) for each procedure. ABPs provide a framework for accessing CS 10110's address **space**. The ABPs of each procedure include a Frame Pointer (FP), a Procedure Base Pointer (PBP...UID's, AON's, Names, and Physical Addresses (Fig. 106)

As previously described, the data **space** accessible to CS 10110 is **divided** into **segments**, or containers, referred to as objects. In an embodiment of CS 10110, the addressable data...

...above with reference to process structures 10210, a procedure's FP points to start of **that** procedure's frame on its **process** 'MAS. When that FP is residing in SS 10336, it is expressed as a UID. When that... the requested data on MIO Bus 10129. In any single word type transfer, DAVIO is **active** for a single system clock transfer. In **block** type transfers, DAVIO is normally active for four consecutive system clock cycles. Upon event of...

14/5,K/11 (Item 11 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00225134

Method and apparatus for simulating systems described by partial differential equations.

Verfahren und Gerat zur Simulierung von durch partielle differentiale Gleichungen beschriebenen Systemen.

Methode et appareil pour simuler des systemes decrits par des equations differentielles partielles.

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 228915 A2 870715 (Basic)
EP 228915 A3 900131
EP 228915 B1 940427

APPLICATION (CC, No, Date): EP 86310189 861229;

PRIORITY (CC, No, Date): US 814348 851227

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/60; G06F-015/328;

CITED PATENTS (EP A): US 4061906 A

CITED REFERENCES (EP A):

REVIEWS OF MODERN PHYSICS, vol. 55, no. 3, July 1983, pages 601-644, The
American Physical Society; S.WOLFRAM: "Statistical mechanics of
cellular automata"

PORCEEDINGS OF THE 1985 INTERNATIONAL CONFERENCE ON PARALLEL PROCESSING,
20th-23rd August 1985, editor Douglas Degroot, pages 426-433, IEEE;
T.HOSHINO et al.: "Parallelized ADI scheme using
GECR(Gauss-elimination-cyclic-reduction) method and implementation of
navier-stokes equation in the PAX computer"

PROCEEDINGS OF THE SCS '85 FIRST INTERNATIONAL CONFERENCE ON
SUPERCOMPUTING SYSTEMS, St. Petersburg, Florida, 16th-20th December
1985, pages 460-467, IEEE; A.BODE et al.: "High performance
multiprocessor systems for numerical simulation";

ABSTRACT EP 228915 A2

Method and apparatus for simulating systems described by partial
differential equations.

A method and apparatus are disclosed for using cellular automata to
simulate systems described by partial differential equations such as
those that describe the flow of fluid, diffusion or heat transfer. A
two-dimensional space is tessellated into a cellular array of regular
hexagons. Flow or diffusion into a cell through each of its six sides
from each of its six nearest neighbor cells is represented by a value 1;
and any other condition is represented by a value 0. A set of rules
specifies the effect of such inward flow in terms of an outward flow
through at least some of the same six sides of each cell to its nearest
neighbors. Interaction of the flow with a surface or other inhomogeneity
is simulated by using a different set of rules to specify the outward
flow produced when an inward flow encounters a surface or other
inhomogeneity in the cell. Outward flow from one cell is an inward flow
into its nearest neighbors; and with the next "tick" of the clock of the
model, the cycle repeats itself. Over long periods of time such as tens
of thousands of ticks of the clock, this process has been shown to
simulate the flow of a real fluid an inclined straight-edge.

ABSTRACT WORD COUNT: 222

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 870715 A2 Published application (Alwith Search Report
;A2without Search Report)
Change: 900110 A2 Obligatory supplementary classification
(change)
Search Report: 900131 A3 Separate publication of the European or
International search report
Examination: 900829 A2 Date of filing of request for examination:
900706
Change: 910123 A2 Representative (change)
Examination: 920318 A2 Date of despatch of first examination report:
920204
Grant: 940427 B1 Granted patent
Oppn None: 950419 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
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| CLAIMS B | (English) | EPBBF1 | 1051 |
| CLAIMS B | (German) | EPBBF1 | 1104 |
| CLAIMS B | (French) | EPBBF1 | 1163 |
| SPEC B | (English) | EPBBF1 | 8194 |

Total word count - document A 0
Total word count - document B 11512
Total word count - documents A + B 11512

...SPECIFICATION Statistical Physics, Vol. 38, Nos. 5/6, p.901 (1985). In this model, an arbitrary **space** is **divided** into an array of identical **cells**. The array is typically a two-dimensional array but it could be one-dimensional, three...

...value of a cell is determined by the previous value of the cell and its **nearest neighbor** cells. Perhaps, the best known cellular automaton is the computer game called "Life" devised by...

14/5,K/12 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00808352

PROGRAM CLASSIFICATION USING OBJECT TRACKING
CLASSIFICATION DE PROGRAMMES PAR POURSUITE D'OBJETS

Patent Applicant/Assignee:

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Legal Representative:

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Prof. Holstlaan 6, NL-5656 AA Eindhoven, NL,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200141064 A2 20010607 (WO 0141064)
Application: WO 2000EP11434 20001115 (PCT/WO EP0011434)
Priority Application: US 99452581 19991201

Designated States: JP

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Main International Patent Class: G06T

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description
Claims

Fulltext Word Count: 7058

English Abstract

A content-based classification system is provided that detects the presence of object images within a frame and determines the path, or trajectory, of each object image through multiple frames of a video segment. In a preferred embodiment, face objects and text objects are used for identifying distinguishing object trajectories. A combination of face, text, and other trajectory information is used in a preferred embodiment of this invention to classify each segment of a video sequence. In one embodiment, a hierarchical information structure is utilized to enhance the classification process. At the upper, video, information layer, the parameters used for the classification process include, for example, the number of object trajectories of each type within the segment, an average duration for each object type trajectory, and so on. At the lowest, model, information layer, the parameters include, for example, the type, color, and size of the object image corresponding to each object trajectory. In an alternative embodiment, a Hidden Markov Model (HMM) technique is used to classify each segment into one of a predefined set of classifications, based on the observed characterization of the object trajectories contained within the segment.

French Abstract

L'invention porte sur un systeme de classification a base de contenu detectant la presence d'images d'objets dans une vue et determinant la

trajectoire de chacune des images d'objets dans les multiples vues d'un segment video. Dans l'execution preferree, les objets faciaux et les objets textuels servent a identifier et distinguer des trajectoires d'objets, et on utilise une combinaison d'informations de trajectoire pour classer chacun des segments d'une sequence video. Dans une autre execution, on utilise une structure hierarchisee d'informations pour ameliorer le processus de classification. Au niveau superieur, video, d'informations, les parametres servant au processus de classification sont par exemple le nombre de trajectoires d'objets de chaque type dans un segment, la duree moyenne de chaque trajectoire de type d'objet, etc.. Au niveau inferieur, modele, d'informations, les parametres comprennent par exemple le type, la couleur, la taille de l'image d'objet correspondant a chacune des trajectoires d'objets. Dans une variante, on utilise la technique HMM (Hidden Markov Model) pour classer chaque segment d'un des ensembles predefinis de classification sur la base des caracterisations observees des trajectoires d'objets contenues dans le segment.

Legal Status (Type, Date, Text)

Publication 20010607 A2 Without international search report and to be republished upon receipt of that report.

Fulltext Availability:

Detailed Description

Detailed Description

... it has been found that close-up shots are particularly effective for classification.

A conventional " **nearest neighbor** " parametric classification approach has been found to be effective and efficient for program classification. Based on experience, heuristics, I 0 and other factors, the center of the parameter **space** corresponding to each feature is determined. A given **segment** is characterized using these defined features, the **vector** distance to each of the classification centers is determined, and the segment is classified as...

14/5,K/13 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00786704 **Image available**

IGNITION SYSTEM FOR STRATIFIED FUEL MIXTURES

SYSTEME D'ALLUMAGE POUR MELANGES DE CARBURANTS STRATIFIES

Patent Applicant/Assignee:

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(Residence), US (Nationality)

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HENRY Steven J (agent), Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200120162 A1 20010322 (WO 0120162)

Application: WO 2000US16747 20000616 (PCT/WO US0016747)

Priority Application: US 99154090 19990915

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE

DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC

LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI

SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: F02P-009/00

International Patent Class: H01T-013/50

Publication Language: English

Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 16343

English Abstract

Systems and methods for igniting fuel in a combustion chamber of an internal combustion engine having at least one combustion chamber utilizing a traveling spark ignitor having at least two electrodes are disclosed. The ignitor is arranged in the combustion chamber such that ends of electrodes are substantially flush with walls of the at least one combustion chamber. A first voltage is provided between the electrodes to cause an initial breakdown of a gaseous air/fuel mixture present between the electrodes and, later, a follow-on current that travels between the electrodes after the initial breakdown is provided.

French Abstract

La presente invention concerne des systemes et des procedes d'allumage de carburant dans une chambre de combustion d'un moteur a combustion interne presentant au moins une chambre de combustion qui utilise un allumeur a etincelles mobile, pourvu d'au moins deux electrodes. Ledit allumeur est monte dans la chambre de combustion de facon que des extremités d'electrodes affleurent sensiblement des parois d'au moins une chambre de combustion. Une premiere tension est appliquee entre les electrodes, afin de provoquer le claquage initial d'un melange gazeux air/carburant, present entre les electrodes, puis un courant subsequent circule entre les electrodes apres le claquage initial.

Legal Status (Type, Date, Text)

Publication 20010322 A1 With international search report.

Examination 20010719 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:
Claims

Claim

... 16 is moved in an outward direction 6 by the action of the Lorentz force **vector** F and thermal expansion, with new plasma being continually created by the breakdown of fresh gas as the discharge continues. V, is the plasma kernel speed **vector**, also directed in the z-direction represented by arrow 6. Thus, the plasma 16 grows...is, the second electrode 20 may have portions removed from it so that there are **spaces separating pieces** of the second electrode 20 from other **pieces**. These **pieces**, if connected, would create a complete circle that surrounds the first electrode I 8. FIG...exist, the initial breakdown point would occur at substantially the same location, i.e., the **closest point** of contact between the second electrode 20 and the insulating material 2'). This leads to...

...some ablation of the electrode will occur causing that point to no longer be the **closest point** so, the next breakdown occurs at the "new" **closest point** (assuming a uniform gas mixture). Thus, the air gap 200 considerably expands the region over...

...ring of ablation is formed over the entire perimeter of the second electrode 20, the **closest point** will be slightly above or below this ring where a new discharge initiation region will...

14/5,K/14 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00786703 **Image available**

ELECTRONIC CIRCUITS FOR PLASMA-GENERATING DEVICES
CIRCUITS ELECTRONIQUES POUR DISPOSITIFS DE PRODUCTION DE PLASMA
Patent Applicant/Assignee:

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(Residence), US (Nationality)

Inventor(s):

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Legal Representative:

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Avenue, Boston, MA 02210, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200120161 A1 20010322 (WO 0120161)
Application: WO 2000US16741 20000616 (PCT/WO US0016741)
Priority Application: US 99154908 19990915

Designated States: AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK
DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK
SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: F02P-009/00

International Patent Class: H01T-013/50

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 15820

English Abstract

A circuit for providing a follow-on current between the electrodes of a traveling spark ignitor after an initial break down between the electrodes has occurred is disclosed. The circuit may include first and second portions which, respectively, provide first and second voltages to the ignitor. The first portion may be a conventional ignition circuit. The second portion provides the follow-on current. The second portion may provide the follow-on current as a single discharge or as a multi-stage discharge.

French Abstract

L'invention concerne un circuit produisant un courant subsequent entre les electrodes d'un allumeur a deplacement d'etincelle apres un claquage initial entre lesdites electrodes. Le circuit peut comprendre une premiere et une seconde parties qui fournissent, respectivement, une premiere et une seconde tensions a l'allumeur. La premiere partie peut etre un circuit d'allumage traditionnel. La seconde partie fournit un courant subsequent sous forme d'une seule decharge ou d'une decharge en plusieurs etapes.

Legal Status (Type, Date, Text)

Publication 20010322 A1 With international search report.

Examination 20010705 Request for preliminary examination prior to end of
19th month from priority date

Fulltext Availability:

Claims

Claim

... is, the second electrode 20 may have portions removed from it so that there are **spaces separating pieces** of the second electrode 20 from other **pieces**. These **pieces**, if connected, would create a complete circle that surrounds the first electrode 18. FIG. 3A...exist, the initial breakdown point would occur at substantially the same location, i.e., the **closest point** of contact between the second electrode 20 and the insulating material 23. This leads to...

...of the electrode will occur causing that point to no

A

- 14 longer be the **closest point** so, the next breakdown occurs at the

Cc new" **closest point** (assuming a uniform gas mixture). Thus, the air gap 200 considerably expands the region over...

...ring of ablation is formed over the entire perimeter of the second electrode 20, the **closest point** will be slightly above or below this ring where a new discharge initiation region will...

14/5,K/15 (Item 4 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00786702 **Image available**

LONG-LIFE TRAVELING SPARK IGNITOR AND ASSOCIATED FIRING CIRCUITRY
INITIATEUR D'ETINCELLE PROGRESSIVE LONGUE DUREE ET CIRCUIT D'ALLUMAGE
CORRESPONDANT

Patent Applicant/Assignee:

KNITE INC, 1H Deer Park Drive, Monmouth Junction, NJ 08852, US, US
(Residence), US (Nationality)

Inventor(s):

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SCHEMMANN Gunter, 5 Greenholm Road, Princeton, NJ 08540, US,
SUCKEWER Artur P, 10 MacLean Circle, Princeton, NJ 08540, US,

Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200120160 A1 20010322 (WO 0120160)

Application: WO 2000US16663 20000616 (PCT/WO US0016663)

Priority Application: US 99155691 19990915

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE

DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC

LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI

SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: F02P-009/00

International Patent Class: H01T-013/50

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 17556

English Abstract

An ignitor and associated electronics for igniting a combustible mixture in a cylinder of an internal combustion engine are described. The ignitor includes at least two spaced-apart electrodes that define a discharge gap. The space between the electrodes is substantially filled with a dielectric material. The dielectric material is spaced-apart from at least one of the electrodes to provide an air gap over which an initial voltage breakdown between the electrodes will occur. The air gap serves to vary the location of the initial breakdown and as a barrier to a short circuit between the electrodes due to carbon and/or metal deposit buildup on the dielectric material. The associated electronics provide a first potential between the electrodes that generates a plasma between the electrodes. Then the volume of the plasma is increased by the application of a second potential that creates a current through the plasma. The plasma, as well as the current passing through, is swept outward due to the interaction of Lorentz and thermal expansion forces with the plasma. Also described are relative orientations of the electrodes that lead to greater plasma formation.

French Abstract

La presente invention concerne un dispositif d'allumage et l'electronique

correspondante permettant d'allumer un melange combustible dans un cylindre d'un moteur a combustion interne. Le dispositif d'allumage comprend au moins deux electrodes espacees qui definissent un espace de decharge. L'espace entre les electrodes est essentiellement rempli d'un materiau dielectrique. Le materiau dielectrique est espace d'au moins l'une des electrodes afin de definir un espace libre le long duquel a lieu une chute de tension initiale entre les electrodes. L'espace libre sert a varier l'emplacement de la chute de tension initiale et sert egalement de barriere contre un court-circuit entre les electrodes resultant de la formation d'un depot de carbone et/ou de metal sur le materiau dielectrique. L'electronique associee permet d'obtenir un premier potentiel entre les electrodes, qui conduit a la production d'un plasma entre lesdites electrodes. Le volume du plasma est alors augmente par l'application d'un second potentiel qui produit un courant a travers le plasma. Le plasma, ainsi que le courant qui le traverse, est envoye vers l'exterieur en raison de l'interaction de Lorentz et des forces d'expansion thermiques qui agissent sur le plasma. Cette invention concerne egalement des orientations relatives des electrodes qui permettent la formation de plus de plasma.

Legal Status (Type, Date, Text)

Publication 20010322 A1 With international search report.

Examination 20010719 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:

Claims

Claim

... 16 is moved in an outward direction 6 by the action of the Lorentz force **vector** F and thermal expansion, with new plasma being continually created by the breakdown of fresh gas as the discharge continues. V, is the plasma kernel speed **vector**, also directed in the z-direction represented by arrow 6. Thus, the plasma 16 grows...is, the second electrode 20 may have portions removed from it so that there are **spaces separating pieces** of the second electrode 20 from other **pieces**. These **pieces**, if connected, would create a complete circle that surrounds the first electrode 18. FIG. 3A...exist, the initial breakdown point would occur at substantially the same location, i.e., the **closest point** of contact between the second electrode 20 and the insulating material 23. This leads to...

...some ablation of the electrode will occur causing that point to no longer be the **closest point** so, the next breakdown occurs at the "new" **closest point** (assuming a uniform gas mixture). Thus, the air ...ring of ablation is formed over the entire perimeter of the second electrode 20, the **closest point** will be slightly above or below this ring where a new discharge initiation region will...

14/5,K/16 (Item 5 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00764011 **Image available**

DUAL-MODE IGNITION SYSTEM UTILIZING TRAVELING SPARK IGNITOR

SYSTEME D'ALLUMAGE BIMODAL AVEC ALLUMEUR A DEPLACEMENT DE L'ETINCELLE

Patent Applicant/Assignee:

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(Residence), US (Nationality)

Inventor(s):

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SUCKEWER Artur P, 10 MacLean Circle, Princeton, NJ 08540, US

SCHEMMANN Gunter, 5 Greenholm Road, Princeton, NJ 08540, US

Legal Representative:

HENRY Steven J, Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200077392 A1 20001221 (WO 0077392)
Application: WO 2000US16665 20000616 (PCT/WO US0016665)
Priority Application: US 99139676 19990616; US 99139537 19990617; US
99154107 19990915

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI
SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: F02P-009/00

International Patent Class: H01T-013/50

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 17156

English Abstract

In one embodiment, a system for providing electrical energy to a traveling spark ignitor operating in an internal combustion engine is disclosed. The system may include a conventional ignition system connected to the ignitor and a follow-on current producer which produces a follow-on current that travels between electrodes of the ignitor after an initial discharge of the conventional ignition system through the ignitor. The system may also include a disabling element that prevents the follow-on current from being transmitted to the ignitor. The disabling element may prevent the follow-on current from being transmitted to the ignitor based upon current operating conditions of the engine. When the disabling element prevents the follow-on current from being transmitted to the ignitor the system operates in a conventional manner. When the disabling element allows the follow-on current to be transmitted to the ignitor the system operates in a manner that creates a traveling spark between the electrodes of the ignitor.

French Abstract

Dans un mode de realisation, l'invention concerne un systeme destine a fournir de l'energie electrique a un allumeur a deplacement de l'etincelle, dans un moteur thermique. Ce systeme peut comporter un systeme d'allumage traditionnel relie a l'allumeur et un generateur de courant de suivi produisant un courant de suivi qui se deplace entre les electrodes de l'allumeur, apres une decharge initiale du systeme d'allumage traditionnel dans l'allumeur. Le systeme peut egalement comporter un element coupe-circuit destine a empecher la transmission de courant de suivi vers l'allumeur. Cet element coupe-circuit peut empecher la transmission de courant de suivi vers l'allumeur sur la base des conditions de fonctionnement habituelles du moteur. Lorsque l'element coupe-circuit empeche la transmission de courant de suivi vers l'allumeur, le systeme fonctionne de maniere traditionnelle. Lorsque l'element coupe-circuit autorise la transmission de courant de suivi vers l'allumeur, le systeme fonctionne de maniere a creer une etincelle qui se deplace entre les electrodes de l'allumeur.

Legal Status (Type, Date, Text)

Publication 20001221 A1 With international search report.

Examination 20010308 Request for preliminary examination prior to end of
19th month from priority date

Fulltext Availability:

Claims

Claim

... is, the second electrode 20 may have portions removed from it so that there are **spaces separating pieces** of the second electrode 20 from other **pieces**. These **pieces**, if connected, would create a complete

circle that surrounds the first electrode 18. FIG. 3A...exist, the initial breakdown point would occur at substantially the same location, i.e., the **closest point** of contact between the second electrode 20 and the insulating material 23. This leads to...
...ablation of the electrode will occur causing that point to no longer be the **closest point** so, the next breakdown occurs at the "new" **closest point** (assuming a uniform gas mixture). Thus, the air gap 200 considerably expands the region over...
...ring of ablation is formed over the entire perimeter of the second electrode 20, the **closest point** will be slightly above or below this ring where a new discharge initiation region will...

14/5,K/17 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00764010 **Image available**

ADD ON UNIT TO CONVENTIONAL IGNITION SYSTEMS TO PROVIDE A FOLLOW-ON CURRENT THROUGH A SPARK PLUG

UNITE D'APPOINT POUR DES SYSTEMES D'ALLUMAGE CLASSIQUES GENERANT UN COURANT CONTINU AU MOYEN D'UNE BOUGIE D'ALLUMAGE

Patent Applicant/Assignee:

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(Residence), US (Nationality)

Inventor(s):

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Legal Representative:

HENRY Steven J, Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue,
Boston, MA 02210, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200077391 A1 20001221 (WO 0077391)
Application: WO 2000US16661 20000616 (PCT/WO US0016661)
Priority Application: US 99139676 19990616; US 99139537 19990617; US
99154107 19990915

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE

DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI
SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: F02P-009/00

International Patent Class: H01T-013/50

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 17219

English Abstract

An add-on module to convert a conventional ignition system into an ignition system capable of powering a traveling spark ignitor is disclosed. This add-on module includes a first blocking element having a first and second connections, the first connection adapted for connection to an output of the conventional ignition system, the first blocking element being serially coupled between the conventional ignition system and the ignitor when the add-on module is connected to the conventional ignition system. The add-on module also includes a follow-on current producer electrically coupled to the ignitor and the second connection of the first blocking element. The add-on module also includes a second blocking element coupled between the follow-on current producer and the

ignitor.

French Abstract

L'invention concerne un module d'appoint qui permet de transformer un systeme d'allumage classique en systeme d'allumage capable de commander un allumeur par etincelle mobile. Ce module d'appoint comprend un premier element de blocage qui possede une premiere et une seconde connexion. La premiere connexion est adaptee pour se connecter a une sortie du systeme d'allumage classique. Le premier element de blocage est couple en serie entre le systeme d'allumage classique et l'allumeur lorsque le module d'appoint est connecte au systeme d'allumage classique. Le module d'appoint comporte egalement un generateur de courant continu electriquement couple a l'allumeur et a la seconde connexion du premier element de blocage. Le module d'appoint comprend aussi un second element de blocage couple entre le generateur de courant continu et l'allumeur.

Legal Status (Type, Date, Text)

Publication 20001221 A1 With international search report.

Publication 20001221 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

Examination 20010315 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:

Claims

Claim

... 16 is moved in an outward direction 6 by the action of the Lorentz force **vector** F and thermal expansion, with new plasma being continually created by the breakdown of fresh gas as the discharge continues. V, is the plasma kernel speed **vector**, also directed in the z-direction represented by arrow 6. Thus, the plasma 16 grows...is, the second electrode 20 may have portions removed from it so that there are **spaces separating pieces** of the second electrode 20 from other **pieces**. These **pieces**, if connected, would create a complete circle that surrounds the first electrode 18. FIG. 3A...exist, the initial breakdown point would occur at substantially the same location, i.e., the **closest point** of contact between the second electrode 20 and the insulating material 23. This leads to be the **closest point** so, the next breakdown occurs at the "new" **closest point** (assuming a uniform gas mixture). Thus, the air gap 200 considerably expands the region over...

...ring of ablation is formed over the entire perimeter of the second electrode 20, the **closest point** will be slightly above or below this ring where a new discharge initiation region will...

14/5,K/18 (Item 7 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00557559 **Image available**

DEVELOPMENTAL LEARNING MACHINE AND METHOD

APPRENTISSAGE DEVELOPPEMENTAL: MACHINE ET PROCEDE A CET EFFET

Patent Applicant/Assignee:

MICHIGAN STATE UNIVERSITY,

Inventor(s):

WENG Juyang,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200020932 A1 20000413 (WO 0020932)

Application: WO 99US23295 19991006 (PCT/WO US9923295)

Priority Application: US 98167751 19981007

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU

LV MD MG MK MN MW MX NZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA

UG UZ VN YU ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ

TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI

CM GA GN GW ML MR NE SN TD TG
Main International Patent Class: G05B-013/00
International Patent Class: G06N-003/00
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 17696

English Abstract

A machine and method capable of developing intelligent behavior from interaction with its environment directly using the machine's sensors (12, 14) and effectors (16). The method described is independent of the type of sensors and actuators, or the tasks to be executed, and therefore provides a general purpose learner that learns while performing. It senses the world, recalls what is learned, judges what to do, and acts according to what it has learned. The learner enables the machine to learn directly from sensory input streams while interacting with the environment, including human teachers. The presented approach enables the system to self-organize its internal representation, and uses a systematic way to automatically build a multi-level representation using the Markov random process model. Reward and punishment are combined with sensor-based teaching to develop intelligent behavior.

French Abstract

L'invention concerne une machine, mettant en oeuvre un procede, permettant la mise au point d'un comportement intelligent a partir de son interaction avec l'environnement par utilisation directe de ses modules de perception (12, 14) et de realisation (16). Le procede selon l'invention, qui ne depend pas du type de modules de perception ou de realisation utilises, ou du type de tache a executer, permet d'obtenir un systeme d'apprentissage polyvalent qui apprend en tout en fonctionnant. La machine selon l'invention est a l'ecoute de son environnement, se rappelle de ce qu'elle a appris, decide de ses actes, et agit en fonction des connaissances qu'elle acquies. Le systeme d'apprentissage permet a la machine d'apprendre directement a partir des trains de donnees sensorielles d'entree tout en interagissant avec son environnement, comprenant des professeurs humains. L'approche presentee permet au systeme d'organiser lui-meme sa representation interne, et met en oeuvre une logique systematique de construction automatique d'une representation multi-niveaux, selon le modele de Markov. Un systeme de gratifications et de sanctions vient completer la pedagogie perceptive, ce qui permet le developpement d'un comportement intelligent.

Fulltext Availability:
Detailed Description

Detailed Description

... samples whose intensity corresponds to the class. The decision boundaries are marked by straight line **segments** and are determined by the **nearest neighbor** rule in the **space** of X. Shown in FIG. 10b is the decision boundary of the **nearest neighbor** rule when the attention mechanism selects both X, and X2. FIG. 10c shows misclassified areas...

14/5,K/19 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00403986 **Image available**

FIELD PROGRAMMABLE GATE ARRAY WITH DISTRIBUTED RAM AND INCREASED CELL UTILIZATION

CIRCUITS PREDIFFUSES PROGRAMMABLES PAR L'UTILISATEUR AVEC MEMOIRE RAM REPARTIE ET UTILISATION ACCRUE DES CELLULES

Patent Applicant/Assignee:

ATMEL CORPORATION,

Inventor(s):

FURTEK Frederick C,

MASON Martin T,
LUKING Robert B,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9744730 A1 19971127
Application: WO 97US7924 19970509 (PCT/WO US9707924)
Priority Application: US 96650477 19960520
Designated States: CN DE GB JP KR AT BE CH DE DK ES FI FR GB GR IE IT LU MC
NL PT SE
Main International Patent Class: G06F-009/455
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 13500

English Abstract

A field programmable gate array has a matrix of programmable logic cells (11; 12) and a bus network of local and express bus lines (19, 21, 23, 25). The bus network effectively partitions the matrix into blocks (15) of cells with each block having its own distinct set of local bus lines. Express bus lines extend across more than one block of cells by means of repeater switch units (27) that also connect local bus lines to express bus lines. The grouping of cells into blocks with repeaters aligned in rows and columns at the borders (13) between blocks creates spaces at the corners of blocks that can be filled with RAM blocks (83), other memory structures, specialized logic structures or other dedicated function elements that are connected to the bus network. The RAM blocks (83), other memory structures, specialized logic structures or other dedicated function elements that are connected to the bus network. The RAM blocks (Fig. 13) can be single or dual port SRAM (85) addressed through the bus lines (86, 178, 179).

French Abstract

Circuits prediffuses avec matrice de cellules logiques programmables (11; 12) et un reseau de type bus comprenant des lignes de bus locales et express (19, 21, 23, 25). Le reseau de type bus realise une repartition effective de la matrice en blocs (15) de cellules, chaque bloc possedant son propre ensemble distinct de lignes de bus locales. Les lignes de bus express s'etendent sur plus d'un bloc de cellules grace a des unites commutateurs repeteurs (27) qui connectent egalement les lignes de bus locales aux lignes express. Le regroupement des cellules en blocs, avec des repeteurs alignes en rangs et en colonnes le long des delimitations (13) entre les blocs, laisse des espaces aux coins des blocs, ces espaces pouvant etre remplis par des blocs de memoire RAM (83), d'autres structures a memoire, des structures logiques specialisees, ou d'autres elements de fonction specialisee qui sont connectees au reseau de type bus. Les blocs de memoire RAM (fig. 13) peuvent etre des memoires RAM statiques (85) comprenant un ou deux ports auxquelles on peut acceder par les lignes de bus (86; 178; 179).

Fulltext Availability:
Detailed Description

Detailed Description

... values in the memory. The interconnect structure provides direct connections between each cell and its **nearest neighbors** in the same row or column of the matrix. U*S, Pat, No. 5,296...

...direct cell-to-cell connections, a set of "local" bus lines provide connections between the **cells** and a bussing network, Regularly **spaced** configurable switches, called repeater units, connect the short local bus **segments** to longer express busses. The repeaters are normally aligned in rows and columns, thereby partitioning...

14/5,K/20 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.

00401863 **Image available**

**APPARATUS AND METHOD FOR MANAGING AND DISTRIBUTING DESIGN AND MANUFACTURING
INFORMATION THROUGHOUT A SHEET METAL PRODUCTION FACILITY
APPAREIL ET METHODE CORRESPONDANTE PERMETTANT DE GERER ET DE REPARTIR UNE
INFORMATION RELATIVE A LA CONCEPTION ET A LA FABRICATION DANS UNE
INSTALLATION DE PRODUCTION DE TOLES**

Patent Applicant/Assignee:

AMADA METRECS CO LTD,
AMADASOFT AMERICA INC,

Inventor(s):

HAZAMA Kensuke,
KASK Kalev,
SAKAI Satoshi,
SCHWALB Moshe Edward,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9742607 A2 19971113

Application: WO 97US7473 19970506 (PCT/WO US9707473)

Priority Application: US 9616958 19960506; US 96700671 19960731

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Main International Patent Class: G06T-017/00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 149194

English Abstract

An apparatus and method is provided for managing and distributing design and manufacturing information throughout a factory in order to facilitate the production of components, such as bent sheet metal components. In accordance with an aspect of the present invention, the management and distribution of critical design and manufacturing information is achieved by storing and distributing the design and manufacturing information associated with each job. By replacing the traditional paper job set-up or work sheet with, for example, an electronically stored job sheet that can be accessed instantaneously from any location in the factory, the present invention improves the overall efficiency of the factory. In addition, through the various aspects and features of the invention, the organization and accessibility of part information and stored expert knowledge is improved.

French Abstract

L'invention porte sur un appareil ainsi que sur la methode correspondante permettant de gerer et de repartir une information dans une usine afin de faciliter la production de composants, des toles cintrees par exemple. Selon un aspect de cette invention, la gestion et la repartition d'information critique relative a la conception et a la fabrication sont menees a bonne fin par le biais d'une memorisation et d'une repartition d'une information relative a la conception et a la fabrication associee a chaque tache. En remplaçant la classique fiche de preparation du travail ou le bon de travail traditionnel, notamment, par un releve d'operation memorise par voie electronique, accessible instantanement de n'importe quel poste de l'usine, cette invention permet d'ameliorer la productivite de l'usine dans son ensemble. En outre, du fait des aspects varies que revet cette invention ainsi que de ses particularites, la mise en place de l'information et des competences techniques memorisees relatives aux pieces a produire ainsi que l'accessibilite a ces donnees se trouvent ameliorees.

Fulltext Availability:

Detailed Description

Detailed Description

... information, including data relating to a representation of the part

within a second predetermined coordinate **space** , by performing a predetermined operation on the faces detected by the detecting means. The predetermined...axis is dynamically recalculated such that the rotation axis passes through the coordinate of the **closest point** to the viewpoint (or camera view) at the center of the screen. By dynamically recalculating...the rotation axis should be set so as to pass through the coordinate of the **closest point** to the viewpoint (i.e., camera) at the center of the screen. In such a...

14/5,K/21 (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00386816 **Image available**

**METHOD OF CREATING AND SEARCHING A MOLECULAR VIRTUAL LIBRARY USING
VALIDATED MOLECULAR STRUCTURE DESCRIPTORS
PROCEDE POUR CREER UNE BIBLIOTHEQUE MOLECULAIRE VIRTUELLE ET PROCEDE POUR Y
FAIRE DES RECHERCHES, EN UTILISANT DES DESCRIPTEURS VALIDES DE
STRUCTURE MOLECULAIRE**

Patent Applicant/Assignee:

PATTERSON David E,
CRAMER Richard D,
CLARK Robert D,
FERGUSON Allan M,

Inventor(s):

PATTERSON David E,
CRAMER Richard D,
CLARK Robert D,
FERGUSON Allan M,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9727559 A1 19970731

Application: WO 97US1491 19970127 (PCT/WO US9701491)

Priority Application: US 96592132 19960126; US 96657147 19960603

Designated States: AU CA CN CZ HU IL JP KR NO PL US AT BE CH DE DK ES FI FR
GB GR IE IT LU MC NL PT SE

Main International Patent Class: G06F-019/00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 125926

English Abstract

The problem of how to select out of a large chemically accessible universe molecules representative of the diversity of that universe is resolved by the discovery of a method to validate molecular structural descriptors. Using the validated descriptors, optimally diverse subsets (5) can be selected. In addition, from the universe, molecules with characteristics similar to a selected molecule can be identified (3). The validated descriptors also enable the generation of a huge virtual library of potential product molecules which could be formed by combinatorial arrangement of structural variations and cores. In this virtual library it is possible to search billions of possible product compounds in relatively short time frames.

French Abstract

Le probleme de la selection de molecules dans l'univers etendu des molecules chimiques possibles, dans toute sa diversite, est resolu par la decouverte d'un procede permettant de valider des descripteurs de structure moleculaire. En utilisant les descripteurs valides, on peut selectionner des sous-ensembles (5) diversifies de maniere optimale. En plus, on peut identifier (3) dans cet univers des molecules possedant des caracteristiques similaires a celles d'une molecule selectionnee. Les descripteurs valides permettent, egalement, de produire une bibliotheque virtuelle immense de molecules potentielles de produits qui peuvent etre formees par arrangement combinatoire de differentes structures et noyaux. Dans cette bibliotheque virtuelle, il est possible d'effectuer une

recherche parmi des milliards de composes possibles de produits, en un temps relativement court.

Fulltext Availability:
Detailed Description

Detailed Description

... would be synthesized and tested for activity. If all the molecules within the neighborhood distance (" **nearest neighbors** ") show activity, each still falls within the boundary of the island, and the next layer...
...in the neighborhood distance expansion would be synthesized and tested. If only some of the **nearest neighbor** molecules show activity, the neighborhood radius of the lead must span an edge of the activity island, and only molecules falling within the neighborhood distance of these **nearest neighbor** active molecules would be included in the next layer of the expansion and synthesized and...
...of the newly tested molecules may show activity and some may not. This process of **nearest neighbor** molecule identification and testing should be repeated until no molecule in the next expansion layer...The library members are identified based on topomers (is the distance too small in topomer **space**) and on Tanimoto similarity **separately** , as was done in the earlier disclosed method. However, every reagent is always allowed, unlike...

14/5,K/22 (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00298093 **Image available**

FACET CLASSIFICATION NEURAL NETWORK **RESEAU NEURONAL DE CLASSIFICATION A FACETTES**

Patent Applicant/Assignee:

MINNESOTA MINING AND MANUFACTURING COMPANY,
Inventor(s):
BRADY Mark J,
MILLION Belayneh W,
STRAND John T,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9516244 A1 19950615
Application: WO 94US13581 19941123 (PCT/WO US9413581)
Priority Application: US 93163825 19931208
Designated States: AU BR CA JP KR AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: G06K-009/64

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 11614

English Abstract

A classification neural network (160) for piecewise linearly separating an input space to classify input patterns is described. The multilayered neural network (160) comprises an input node (162), a plurality of difference nodes (164) in a first layer, a minimum node (170), a plurality of perceptron nodes (166) in a second layer and an output node (168). In operation, the input node (162) broadcasts the input pattern to all of the difference nodes (164). The difference nodes (164), along with the minimum node (170), identify in which voronoi cell of the piecewise linear separation the input pattern lies. The difference node defining the voronoi cell localizes input pattern to a local coordinate space and sends it to a corresponding perceptron, which produces a class designator for the input pattern.

French Abstract

Un reseau (160) neuronal de classification permet de separer de facon

lineaire, par elements, un espace d'entree pour classer des motifs d'entree. Ce reseau (160) neuronal multicouches comprend un point nodal (162) d'entree, plusieurs points nodaux (164) de differenciation disposes dans une premiere couche, un point nodal (170) minimum, plusieurs points nodaux (166) de perceptrons places dans une deuxieme couche et un point nodal (168) de sortie. Pendant le fonctionnement, le point nodal (162) d'entree envoie le motif d'entree a tous les points nodaux (164) de differenciation qui, avec le point nodal (170) minimum, identifient de quelle cellule de vornoi de la separation lineaire par elements releve ce motif d'entree. Le point nodal de differenciation qui definit la cellule de vornoi attribue le motif d'entree a un espace a coordonnees locales et l'envoie au perceptron correspondant, ce qui permet d'obtenir un designateur de classe destine au motif d'entree.

Fulltext Availability:
Detailed Description

Detailed Description

... m defining the cell. Bounds occur where multiple vornoi boundaries intersect. For example, in 3- **dimensional space**, facets are planes and their intersections are edges. Thus, the vornoi boundaries piecewise linearly separate the midpoints m, as opposed to linearly separating the sample points, in a **nearest neighbor** type fashion thereby piecewise linearly **separating** the entire input **space** by a vornoi tessellation. Further, each vornoi **cell** may be **partitioned** by a partitioning bounded hypersurface, which is also a facet.

The **partitioned** polytope, a **partitioned** vornoi **cell**, forms two subpolytopes, each subpolytope defining **space** of a different classification, The **partitioning** hypersurface is defined by facet origin z and the orientation of the facet defined by...

...seen that the present method of partitioning of the input space is different than a **nearest neighbor** function because rather than storing all examples, the boundaries, or facets are stored. Also, rather than the sample points and their **nearest neighbor** determining the facet locations, the post midpoints m and their **nearest neighbor** determine the facet locations.

The following proof shows that the above method of determining the...

14/5,K/23 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00264772 **Image available**

CONSTRUCTION GEOMETRY USING DOF ANALYSIS
GEOMETRIE DE CONSTRUCTION PAR ANALYSE DU DEGRE DE LIBERTE
Patent Applicant/Assignee:

SCHLUMBERGER TECHNOLOGY CORPORATION,
Inventor(s):
BOLON Craig,
KANUMURY Mahesh,
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PABON Jahir A,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9412941 A1 19940609
Application: WO 93US11642 19931130 (PCT/WO US9311642)
Priority Application: US 92985479 19921202

Designated States: AU CA JP KR AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: G06F-015/20

International Patent Class: G06F-15:60

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 12504

English Abstract

A method, useful in computer-aided design, for finding configurations of collections of geometric elements representing shapes of physical objects that satisfy a set of geometric constraints, when these constraints relate to topological properties of the geometric elements. In particular, the invention relates to a method that classifies the geometric elements in terms of degrees of freedom, categorizes topological properties in terms of biases, and synthesizes a solution by progressively reducing the total degrees of freedom in the system.

French Abstract

L'invention concerne un procede utile dans la conception assistee par ordinateur qui permet de trouver des configurations d'ensembles d'elements geometriques representant des formes d'objets physiques repondant a un ensemble de contraintes geometriques se rapportant aux proprietes topologiques desdits elements geometriques. L'invention porte plus particulierement sur un procede de classification des elements geometriques par degres de liberte, de categorisation de proprietes topologiques en fonction de leurs biais, et de synthese d'une solution par reduction progressive des degres totaux de liberte dans le systeme.

Fulltext Availability:

Detailed Description

Detailed Description

... For example, solution synthesis might be designed to solve topological constraint M systems in 2- **space** with points and line **segments**, governed by constraints of pointpoint distance, point-line distance, line-line angle, and line segment...

...or $-\pi/2$) rotating the direction of line segment L to the direction of a **vector** from point P to the **closest point** on the infinite line that passes through line segment L. The sign of the angle the infinite line that passes through line segment L, such a **vector** becomes of zero length, and left/right bias becomes indeterminate. When degrees of freedom analysis...

File 275:Gale Group Computer DB(TM) 1983-2002/Mar 29
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 File 583:Gale Group Globalbase(TM) 1986-2002/Mar 30
 (c) 2002 The Gale Group
 File 47:Gale Group Magazine DB(TM) 1959-2002/Mar 28
 (c) 2002 The Gale group
 File 621:Gale Group New Prod.Annou.(R) 1985-2002/Mar 29
 (c) 2002 The Gale Group
 File 636:Gale Group Newsletter DB(TM) 1987-2002/Mar 29
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 File 16:Gale Group PROMT(R) 1990-2002/Mar 29
 (c) 2002 The Gale Group
 File 160:Gale Group PROMT(R) 1972-1989
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 File 148:Gale Group Trade & Industry DB 1976-2002/Mar 29
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 File 623:Business Week 1985-2002/Mar 29
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 File 98:General Sci Abs/Full-Text 1984-2002/Feb
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 File 553:Wilson Bus. Abs. FullText 1982-2002/Mar
 (c) 2002 The HW Wilson Co
 File 88:Gale Group Business A.R.T.S. 1976-2002/Mar 28
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 File 15:ABI/Inform(R) 1971-2002/Mar 30
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 File 635:Business Dateline(R) 1985-2002/Mar 30
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 File 9:Business & Industry(R) Jul/1994-2002/Mar 28
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 File 810:Business Wire 1986-1999/Feb 28
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 (c) 2002 CMP Media, LLC
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 (c) 1999 PR Newswire Association Inc
 File 634:San Jose Mercury Jun 1985-2002/Mar 30
 (c) 2002 San Jose Mercury News
 File 370:Science 1996-1999/Jul W3
 (c) 1999 AAAS
 File 20:Dialog Global Reporter 1997-2002/Apr 01
 (c) 2002 The Dialog Corp.
 File 613:PR Newswire 1999-2002/Apr 01
 (c) 2002 PR Newswire Association Inc
 File 610:Business Wire 1999-2002/Apr 01
 (c) 2002 Business Wire.

| Set | Items | Description |
|-----|---------|--|
| S1 | 122089 | (NEAR OR NEAREST) () NEIGHBOR? OR KNN OR (BILINEAR OR BI () LI-NEAR) () INTERPOLATION OR SINGLE () LINKAGE? ? OR (BEST () MATCH???-) (3N) (SEARCH??? OR QUER???) OR SIMILARITY () JOIN OR POST () OFF-ICE OR CLOSEST () POINT |
| S2 | 6755 | (LOCAL?? OR POLAR) (3N) COORDINATE? ? |
| S3 | 18765 | (MULTIDIMENSIONAL OR N OR DIMENSIONAL OR DATA OR VECTOR) (2-W) SPACE? ? OR DATASPACE? ? |
| S4 | 21860 | (PARTITION??? OR DIVID??? OR SEGMENT? OR BREAK??? OR SEPAR-AT? OR SPLIT???) (5N) (SPACE? ? OR DATASPACE? ?) (5N) (CELL? ? OR FIELD? ? OR COMPARTMENT? ? OR BLOCK? ? OR SEGMENT? ? OR SECT-ION? ? OR PIECE? ? OR COLUMN? ? OR ROW? ?) |
| S5 | 2249366 | QUERY??? OR QUERIES OR SEARCH??? |

S6 161059 VECTOR? ?
S7 4 S1(S)S2
S8 4 S7 OR (S7(S)S3:S6)
S9 26 S1 AND S2 AND S3:S6
S10 20 RD (unique items)
S11 18 S10 NOT S8
S12 11 S1(S)S4
S13 3 S12 NOT POST()OFFICE
S14 3 S13 OR (S13(S) (S3 OR S5:S6))

✓ 8/3,K/1 (Item 1 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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02087724 SUPPLIER NUMBER: 19433638 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Lesson 106: the basics of e-mail access. (Technology Information)

Chae, Lee

Network, v12, n6, p27(2)

June, 1997

LANGUAGE: English RECORD TYPE: Fulltext; Abstract

WORD COUNT: 1926 LINE COUNT: 00148

...ABSTRACT: and Internet standards-based protocols exist. While companies often implement proprietary e-mail packages to **coordinate local** e-mail needs, standards-based systems, such as the **Post Office Protocol-3** (POP-3) and the Internet Message Access Protocol 4 (IMAP-4), also offer...

8/3,K/2 (Item 1 from file: 98)

DIALOG(R)File 98:General Sci Abs/Full-Text

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03271747 H.W. WILSON RECORD NUMBER: BGS196021747

Role of external medical volunteers after disasters.

Kunii, Osamu

Wakai, Susumu; Honda, Toru

Lancet (North American edition) (Lancet) v. 347 (May 18 '96) p. 1411

DOCUMENT TYPE: Feature Article

ISSN: 0099-5355

LANGUAGE: English

COUNTRY OF PUBLICATION: United States

...ABSTRACT: government led to an establishment of an external medical relief network (Kansai NGO network or **KNN**) within 2 days of the earthquake. **KNN** provided first aid and primary care and decided to focus on public health works, mental health, and the elderly as priorities. **KNN** called daily meetings to **coordinate** the effort for **local** and external helpers. Although not without problems, **KNN** was a success. Networks along the lines of **KNN** should be set up locally, nationally, or internationally in advance of disasters.

8/3,K/3 (Item 1 from file: 88)

DIALOG(R)File 88:Gale Group Business A.R.T.S.

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05566105 SUPPLIER NUMBER: 65576905

Overall Numerical Simulation of Extrusion Blow Molding Process.

TANIFUJI, SHIN-ICHIRO; KIKUCHI, TSUYOSHI; TAKIMOTO, JUN-ICHI; KOYAMA,

KIYOHITO

Polymer Engineering and Science, 40, 8, 1878

August, 2000

ISSN: 0032-3888 LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 8952 LINE COUNT: 00738

... integral).sup.((omega).sup.t)) (phi)(f.sub.ext)dS, (17)
where (phi) is the **vector** form of the membrane finite element basis functions, and (f.sub.ext) is an external...

...coordinate system ((X.sub.1), (X.sub.2), (X.sub.3)) is translated into the **local coordinate** system (R,S,T). The **bilinear interpolation** function defined in R-S plane is used to interpolate the coordinate, velocity and stress...

8/3,K/4 (Item 1 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

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00562716 91-37070

DesignCAD 5.0: Still Difficult, but Worth It

Halliday, Caroline

InfoWorld v13n30 PP: 69-71 Jul 29, 1991

ISSN: 0199-6649 JRNL CODE: IFW

WORD COUNT: 2362

...TEXT: to rate editing tools satisfactory.

Placement tools: You can place entities using absolute, relative, and **polar coordinates**. Keyboard shortcuts make entering values particularly easy. The snap feature lets you set points at intersections, endpoints, or at the **closest point** on an entity. Construction commands let you draw perpendicular and tangent lines.

The Parallel command...